

U.S. Automotive Parts Industry Annual Assessment



**Office of Aerospace and Automotive Industries
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Executive Summary

Domestic Trends

The big stories of 2005 were the continued economic struggle of parts suppliers hit with higher energy and steel costs, heavy debt and overcapacity caused by production cuts at Ford and GM. As a result, more than a dozen major suppliers filed for bankruptcy in 2005. General Motors, Ford, and DaimlerChrysler (Detroit 3) remain the largest purchasers of U.S. parts production. U.S. parts suppliers have been feeling the pinch in terms of small profit margins and price cut demands. The largest U.S.-based automotive supplier, Delphi, filed for Chapter 11 bankruptcy protection and the second largest, Visteon, was rescued by Ford.

Industry experts expect that the Detroit 3 will continue to lose market share to U.S.-affiliates of foreign-based manufacturers and imports. Many U.S. parts suppliers are trying to become suppliers to the foreign-affiliated (transplant) automakers to offset loss of sales to the Detroit 3. However, they are finding it difficult to enter transplant automakers' supply chains, in part because transplants have previously established relationships with home-market (foreign) suppliers or have already established long term relationships with other U.S. suppliers.

International

The United States exported a record \$55 billion worth of automotive parts in 2005, up from the \$53 billion in 2004. Canada, Mexico, European Union 15, and Japanese markets accounted for 89 percent of total U.S. automotive parts exports in 2005. The United States imported a record high amount of automotive parts in 2005, reaching \$92 billion, up from \$83 billion in 2004. The \$5.4 billion worth of automotive parts imports from China in 2005 was an increase of 39 percent from 2004. In 2004 imports from China also rose 39 percent, from \$2.8 billion imported in 2003. Combined, Mexico, Canada, Japan, Germany, and China accounted for \$75 billion, 81 percent of total U.S. imports of automotive parts. The U.S. trade deficit in automotive parts increased to a record level of \$37 billion in 2005, a 20 percent increase over 2004. This is the largest automotive parts trade deficit in history, and it is expected to continue to climb as U.S. automotive production loses market share to increasingly competitive foreign production.

Outlook

The outlook for U.S. auto suppliers remains gloomy for 2006. Suppliers with significant health care and pension costs will struggle to stay competitive. Because U.S.-based suppliers largely remain heavily tied to the U.S. automakers, suppliers will keep struggling until they can find replacement business with foreign automakers or exit the industry to pursue other opportunities. Further restructuring and downsizing of the North American auto parts industry will likely occur.

Notable developments in 2005 include:

Production

- U.S. automotive parts industry production likely declined further in 2005 compared with 2004, in part because of vehicle production cutbacks at the Detroit 3 (GM, Ford and Chrysler). Industry analysts predict that 2006 will be a difficult year for U.S. automotive parts suppliers and vehicle makers as the market remains stable and competition remains fierce. This is especially true for suppliers that rely heavily on the Detroit 3.
- The Bureau of Labor Statistics (BLS), U.S. Department of Labor, reported 743,600 jobs in the automotive parts industry in 2005. This is a 1.7 percent decrease from the 756,600 jobs in the automotive parts industry in 2004. The last time that jobs increased in the automotive parts industry occurred in 2000, when jobs grew 0.3 percent to 920,300.
- The domestic U.S. automotive parts industry represented 5.2 percent of U.S. manufacturing employment in 2005, according to the U.S. Bureau of Labor Statistics, down slightly from 5.3 percent in 2004.

Sales

- North American original equipment (OE) sales for the top 150 North American market suppliers reached \$200.6 billion in 2004. This was an increase of 7.4 percent from \$186.7 billion in 2003.
- Suppliers are preparing for declines in automotive sales and production by diversifying geographically, increasing research and development, turning to joint ventures, seeking more module (complete systems, not just components) contracts, and by leaving marginal segments.
- The U.S. automotive aftermarket is estimated to have been \$195 billion in 2005, up 2.2 percent from \$190 billion in 2004. The Automotive Aftermarket Suppliers Association estimates the aftermarket will \$202 billion in 2006.

International Trade

- The U.S. trade deficit in automotive parts increased to a record \$37.1 billion in 2005, a 20.4 percent increase over \$30.8 billion in 2004. This is the largest automotive parts trade deficit in U.S. history.
- U.S. exports of automotive parts in 2005 were \$55.1 billion, an increase of 4.6 percent over 2004 levels, according to U.S. trade data.

- Exports to Canada and Mexico accounted for 77 percent of the total U.S. automotive parts exports in 2005.
- U.S. imports of automotive parts were \$92.2 billion in 2005, an increase of 10.4 percent over 2004 levels.
- The United States imported \$46.5 billion worth of automotive parts from Mexico and Canada in 2005. These imports accounted for 50 percent of the total U.S. automotive parts imports.
- Automotive parts trade with China has grown significantly in recent years. In 2000 the United States imported \$1.6 billion worth of automotive parts from China. By 2004, the value more than doubled to \$3.9 billion, and increased 39.2 percent over 2004 levels to \$5.4 billion in 2005.
- On the other hand, exports of U.S. automotive parts to China decreased 2 percent from \$636 million in 2004 to \$623 million in 2005. Resulting in an increase of 47.3 percent in the U.S. automotive parts trade deficit with China from \$3.2 billion in 2004 to \$4.8 billion in 2005.
- China's share of the U.S. original equipment (OE) market rose from less than 1 percent in 1997 to 2 percent in 2004.
- Global consumption of automotive parts was estimated to be about \$900 billion in 2004 and will increase to roughly \$1.1 trillion by 2010.
- U.S. exports accounted for about 13 percent of the world's trade in automotive parts in 2004, down from about 14 percent in 2003.

Industry Issues

- In 2005 many U.S. parts suppliers were hit with higher energy and steel costs, heavy debt, cash flow problems, and overcapacity caused by production cuts at Ford and GM. The result was more than a dozen major suppliers filing for bankruptcy in 2005, including Delphi – the nation's largest supplier.
- Suppliers are trying to deal with high legacy costs, employee wages, and benefits to be competitive globally. Tough negotiations are taking place between suppliers, automakers, and labor unions.
- Industry analysts predict that, of nearly 800 major suppliers in 2000, fewer than 100 will be left by 2010 as a result of bankruptcies, mergers and acquisitions, and migration to other industries.
- Nonetheless, there was a 55 percent decline in the number of major mergers and acquisitions between 1998 and 2004, falling from 61 to 27, respectively.

- There is concern among many industry executives and analysts about the current business model and relationship between the “Detroit 3” vehicle assemblers (GM, Ford, and Chrysler side of DaimlerChrysler) and their suppliers. Many feel the adversarial approach is driving down the already low profit margins of the suppliers to a point where they are no longer viable.

Introduction

Automotive parts consumption is derived from the demand for new vehicles, since roughly 70 percent of U.S. automotive parts production is for the OEM products. If vehicle production goes down, then automotive parts production and sales follow. The year 2005 was another difficult year for the Detroit 3 (GM, Ford and Chrysler), as they lost market share once again. Because the Detroit 3 remain the largest purchasers of U.S. parts production, U.S. parts suppliers have been feeling the pinch in terms of small profit margins and price cut demands. The largest U.S.-based automotive supplier, Delphi, filed Chapter 11 bankruptcy protection and the second largest, Visteon, was bailed out by Ford. From the automotive parts industry perspective, 2006 will see much of the same. GM announced plant closings, major layoffs and production cuts in November and Ford made similar announcements in January 2006. GM’s plan will be completed by 2008 and Ford’s by 2012.

Industry experts expect that domestic vehicle manufacturers will continue to lose market share to U.S.-affiliates of foreign-based manufacturers and imports.¹ U.S. vehicle manufacturers have struggled the past few years to make profits on cars and trucks, forced to cut costs and offering incentives to maintain sales. These cost cuts and incentives affect the suppliers, from whom automakers continue to demand price cuts, while at the same time reducing their volume requirements. Many U.S. parts suppliers are trying to become suppliers to the foreign-affiliated (transplant) automakers to offset those losses. However, they are finding it difficult to enter transplant automakers’ supply chains, in part because transplants have previously established relationships with home-market (foreign) suppliers, whether through imports or through home-market suppliers’ U.S.-affiliates, or have already established long term relationships with other U.S. suppliers.

Automotive Parts Sector Definitions

Automotive parts are defined as either Original Equipment (OE), or aftermarket parts. Original equipment parts that are used in the assembly of a new motor vehicle (automobile, light truck, or truck) or are purchased by the manufacturer for its service network and referred to as Original Equipment Service (OES) parts. Suppliers of OE parts are broken into three levels. The first level is “Tier 1” suppliers who sell finished

¹ For a list of Automotive Parts Industry Associations, visit <http://www.ita.doc.gov/td/auto/links/tradeassn.html>

components directly to the vehicle manufacturer. The next level is “Tier 2” suppliers who sell parts and materials for the finished components to the Tier 1 suppliers. The third level is “Tier 3” suppliers who supply raw materials to any of the above suppliers or directly to vehicle assemblers. There is often overlap between the tiers. Original equipment production accounts for an estimated two-thirds to three-fourths of the total automotive parts production.

Aftermarket parts are divided into two categories: replacement parts, and accessories. Replacement parts are automotive parts built or remanufactured to replace OE parts as they become worn or damaged. Accessories are parts made for comfort, convenience, performance, safety, or customization, and are designed for add-on after the original sale of the motor vehicle.

For a more detailed and specific product definition of automotive parts, including North American Industry Classification System (NAICS) codes, see Appendix 1.

Overview of Industry Market Conditions

The auto industry is a key component of the nation’s industrial strength. In a typical year, it accounts for 5 percent of GDP, 16 percent of all durable goods shipments, and 6 percent of all manufacturing employment in the United States. The automotive industry, including the automotive parts sector, accounted for about 1.1 million employees in 2005, a decline of 1.8 percent from 2004².

Many of the “transplant” OEM producers employ a business model that combines collaboration between each assembler and its parts suppliers in a lean, flexible, just-in-time (JIT) assembly process. JIT is predicated upon short supply lines that deliver small batches of components to the assembly line steadily and without interruption (often hourly, and sometimes synchronized to match a particular vehicle). Because there is no built up inventory, JIT allows the firms to correct quality problems as they are discovered, and to make running changes in product specifications or volume requirements when needed. Buyers and sellers collaborate over time to drive costs down and share in the savings generated. This business model appears to successfully lower the OEMs’ input and assembly costs, improve product quality, and stimulate the development of new content. [For more, see <http://www.ita.doc.gov/td/auto/domestic/SupplyChain.pdf>.]

The Detroit 3 remain the largest customers of U.S. suppliers buying up to 80 percent of U.S. parts production. On a long-term basis the Detroit 3 say they are working to adopt JIT concepts and the collaborative, partnering approach. Until they reach that point, however, they continue to seek price concessions while asking their suppliers to take on more design and manufacturing responsibilities and to absorb the suddenly higher costs

² Bureau of Labor Statistics data using NAICS 3361, 3362, and 3363.
<http://data.bls.gov/PDO/outside.jsp?survey=ce>

for their inputs. This situation is placing the U.S. OEM supplier universe under great pressure.

In a study by Planning Perspectives Inc., surveying 259 suppliers, 85 percent of the suppliers who work with GM reported a poor working relationship. Similar results were found in suppliers' relationship with Ford. Tom Stalkamp, industrial partner of Ripplewood Holdings LLC and the former president of Chrysler Corp., said, "based on the re-sourcing threats and actions of many of the automakers, it's obvious that they are about as loyal to their old-line partners as Brad Pitt was to Jennifer Aniston."³ On the other hand, suppliers working with Toyota and Honda expressed a more positive working relationship. Suppliers cite Ford and GM's focus on costs and pressure from the companies, versus a more harmonious relationship, focused on quality, that Asian automakers have with suppliers.

Pressure is further exacerbated by global competition in the parts industry. As Japanese, German, and Korean-based vehicle manufacturers gain increasingly larger shares of the U.S. market, they maintain relationships with their traditional supplier base from their home markets. Many of those home market suppliers have been creating or expanding "transplant" capacity in the U.S. to meet their traditional OEM's production needs. At the same time those transplant suppliers are aggressively seeking business from the Detroit 3. In addition, suppliers in many lower cost markets are improving their quality and becoming capable of supplying even greater shares of U.S. demand from abroad. In addition, because it would ease their own competitive positions, the Detroit 3 have been advocating that U.S.-based suppliers move production to lower cost countries or risk losing future contracts.

On top of the above, some of the major OEMs are moving toward a "Vehicle Brand Owner" business model, in which each VBO eventually will be responsible primarily for managing, marketing, and maintaining a stable of nameplates, having surrendered more and more responsibility for content engineering and even for vehicle assembly to outside suppliers, and having transferred more and more costs, responsibilities, and product knowledge to them in the process. Some, including GM (Saab), DaimlerChrysler (Chrysler), and even Porsche, have already begun to subcontract production of complete low-volume "niche" vehicles to specialty assemblers. Suppliers now are being evaluated, not only on the basis of near-term price and long-term cost reduction programs, but also for their corporate stability, product design and production engineering capabilities, for down-stream management of their own supply chains, delivery reliability, willingness to locate plants in closer proximity to the OEM's – wherever they are located – and for participation in the assembly process.

The domestic parts industry is in the throes of responding to numerous new challenges. Some suppliers are willingly taking on the new responsibilities offered to them by the OEMs–cum–VBOs, transforming themselves into "Tier One-Half systems integrators," that engineer and build complete modules (for example, an entire interior, 4-corner suspension sets, an entire rolling chassis) and assume both product design and

³ Automotive News, by Robert Sherefkin, "Hey, Suppliers: You think this is pain? Just wait...", 1/18/06.

development responsibilities and down stream supply chain management functions previously undertaken by the OEMs. These suppliers are scrambling to add to their capabilities and product lines; building additional plants to satisfy JIT requirements and minimize inventory exposure, adopting global best manufacturing practices, investing in their own development of new technologies, or buying or merging with firms that can contribute new skills, complementary products, and new technologies.

Other firms, however, are choosing not to pursue this new role, consciously deciding to remain in the less demanding tiers. Some eventually could find themselves in an exceedingly competitive environment of highly cost sensitive, commodity products – particularly if they are unable to differentiate their offerings.

Suppliers can expect to face continued requests for cost reductions from vehicle assemblers and Tier 1 suppliers. A study by the Roland Berger consulting firm suggested that suppliers should choose one of three business models - system integrators, technology satellites, or process satellites. System integrators, focusing on program management and cost control, add value to subsystems for other suppliers. Technology satellites develop unique technologies, relying heavily on research & development and strong engineering staff. Process satellites develop better processes for low cost, high-volume manufacture of commodities and may outsource manufacturing of the commodities. Some suppliers are willingly taking on new responsibilities offered to them, transforming themselves into “Tier One-Half systems integrators,” that engineer and build complete modules and assume both product design and development responsibilities and down stream supply chain management functions. Others are consciously declining, deciding there is more profitability and less risk by remaining in the lower tiers.

However, contrary to this trend, General Motors announced in 2005 that it would take its interior design work back in-house, rather than letting suppliers, such as Lear Corp., Intier, and Johnson Controls Inc., do it. The new policy will have a major impact on GM’s seat and interior makers. Other assemblers also have begun to rethink their commitment to the VBO model.

GM’s and Ford’s share of the domestic vehicle market, 60 percent in 1986, shrank to just 43.3 percent in 2005. The Asian-based manufacturers’ share rose from 22 percent to 36.6 percent in the same period. In 2005, the Detroit 3’s share continued to wither—falling to 56.8 percent.

GM experienced an \$8.6 billion loss in its global operations in 2005, including a \$5.6 billion loss on North American automotive operations. Ford lost \$1.6 billion in 2005, a decline of \$3 billion from 2004. Unlike Ford and GM, DaimlerChrysler performed relatively well in 2005, earning a profit of \$1.8 billion, a \$100 million increase from 2004. DaimlerChrysler’s market share climbed 0.5 percent to 13.5 percent in 2005.

General Motors’ and Ford’s combined share of global production has fallen dramatically over the past twenty years. In 1984, GM and Ford combined for production of 13.8

million units, giving them 33 percent of total global production (41.8 million units). By 2005, GM and Ford's worldwide production reached 16.7 million units. However, this represented only 26.7 percent of a much larger global production total of 62.3 million units. Total U.S. production of light vehicles was 11.5 million units in 2005, a slight decline of 0.6 percent from 2004. The record high production of light vehicles was in 1999 with 12.6 million units.

The impact upon other suppliers if even one of the Detroit 3 collapses or sharply curtails operations can be severe. It takes many months and significant resources to win business from vehicle assemblers or from the major "Tier 1" suppliers. Most U.S. suppliers are ill situated to withstand major disruptions. Unfortunately dramatic growth in several Asian economies has led to high and rising costs for several important raw materials. Steel prices have remained high due to strained capacity and dramatic industrial growth in the developing world. The same dramatic growth has also strained petroleum prices. The rise in petroleum costs led to increased energy costs and higher raw material costs for those companies with petroleum based products (e.g., plastics). These higher raw material costs have pushed several industry players over the edge.

In October 2005, Delphi, the largest U.S. supplier, declared bankruptcy. It was the largest bankruptcy in industry history. Visteon, the U.S. industry's second largest U.S.-based supplier, also was on the ropes with many of the same problems dragging down Delphi. GM has offered some relief to Delphi by offering to take back some employees and to pay for buyouts and rescinding previous demands for price decreases on many components. Ford stepped forward to relieve financial pressure on Visteon, its primary supplier, by advancing payments and taking back twenty-four uncompetitive plants.

Economic Indicators

Almost all economic variables, such as real GDP growth per capita, real disposable income growth per capita, and employment experienced improvement in 2005. Historically, the automotive sector closely tracks these economic indicators, in part because the automotive sector is a major component of these indicators (Charts 1 and 2). There are some worrisome conditions on the horizon, however. The record U.S. deficit, over \$600 billion, is troubling because, traditionally, large deficits have resulted in higher interest rates. Unfortunately, consumers have high debt loads making them very sensitive to interest rates. Additionally, there are structural variables negatively influencing vehicle sales, including lower scrappage rates of vehicles because of increased reliability of new vehicles.

Because the automotive industry is an important link to other economic sectors, any economic revival will affect the automotive industry. Trends in the automotive parts industry follow the motor vehicle industry. However, there is a perception that even in periods of downturn in the motor vehicle sector, lost OE automotive parts production and sales will be offset somewhat by aftermarket sales as demand for replacement parts for vehicles in use increases. This perception is not always correct, as consumers will also delay all but essential repairs during a recession. Additionally, the durability of parts has

increased from previous decades, resulting in less need to replace many normal wear parts. Therefore, declines in OE parts production and sales may no longer be offset by increases in the demand for aftermarket parts.

According to the most recent Annual Survey of Manufacturers (with data through 2004), auto parts industry shipments of \$212.5 billion accounted for 5 percent of total U.S. manufacturing shipments (Tables 1 and 2). This is one of the highest percentage shares of any single U.S. industry. Industry employment in 2005 accounted for 5 percent of total manufacturing employment. The U.S. automotive parts industry was also one of the largest U.S. exporters, accounting for 6.1 percent of total U.S. merchandise exports in 2005 (Table 3). [For the complete Census report, go to < <http://www.census.gov/mcd/asm-as1.html> >].

Industry associations estimated that original equipment parts account for between 67-75 percent of the value of total automotive parts production and that aftermarket equipment accounts for between 25-33 percent. It is difficult to estimate exact percentages in terms of sales because the prices paid by vehicle assemblers for original equipment parts are not comparable to prices paid by automotive consumers. Vehicle manufacturers are able to negotiate much more favorable price contracts with parts suppliers than vehicle owners paying retail.

The Original Equipment Suppliers Association (OESA) reported that the worldwide market for Original Equipment (OE) automotive parts increased 5 percent from \$802.9 billion in 2003 to \$843 billion in 2004 (Table 4). The Asia Pacific region, Europe, and North America combined account for roughly 95 percent of the global market for OE parts.

A study by the OESA and RolandBerger Consultants estimated that the world market for OE auto parts would increase at a compound average growth rate of 3.4 percent per year between 2003 and 2010, reaching \$1.1 trillion. The U.S. market represented about 23 percent of total consumption in 2003, totaling about \$200 billion. Although U.S. OE output will increase in absolute terms, the study predicts that the U.S. share of global OE production will decline at a 2.8 percent compound average rate, falling from a 22 percent share to 18 percent in 2010.

The average value of parts per vehicle declined from \$13,637 in 2003 to \$13,586 in 2004, according to industry analysts (Table 4). OESA reported that this reflects a number of factors including greater global competition among parts suppliers, increased economies of scale, and cost cuts demanded by vehicle manufacturers.

Forecast of Market Conditions

Several industry forecasts expect that 2006 U.S. vehicle sales will fall only slightly from 2005's 16.9 million unit market to 16.7 million units, but even this decline may further exacerbate the Detroit 3's problems. On the other hand, light vehicle production is expected to modestly increase over the next two years, rising from 11.5 million in 2005, to nearly 11.8 million units in 2006. This upward trend is expected to continue, with the 2008 forecast reaching the 1999 benchmark 12.6 million units.

A 2005 survey of 140 senior level executives in the automotive sector by KPMG LLC revealed that expectations for future profits were falling and that automotive executives think their companies will make even less money in the next five years as competitive pressures intensify worldwide. The outlook was generally negative and 76 percent of the respondents believed that an automaker or another big supplier like Delphi Corp. would go bankrupt in the next few years. A majority of the automotive executives also responded that they believe even more automotive business would be conducted across country borders during the next five years, that overcapacity fears in China were increasing, and that consolidation will occur among Tier 1 and Tier 2 suppliers and that there will be some consolidation among automakers.

Leading Industry Stories of 2005

The big stories of 2005 were the continued economic pain of parts suppliers hit with higher energy and steel costs, heavy debt and overcapacity caused by production cuts at Ford and GM, resulting in more than a dozen major suppliers filing for bankruptcy in 2005, including Delphi and the near bankruptcy of Visteon, the two largest American parts manufacturers.

Many suppliers saw their bond ratings fall to "junk" status according to Standard and Poor's, the New York ratings agency. "Junk" or non-investment grade status warns investors and customers about the elevated risk of doing business with a company. Some suppliers who saw their bonds rated as junk in 2005 included Delphi, TRW, ArvinMeritor, Tenneco, and Visteon. Suppliers rated as junk see the cost of borrowing increase and sometimes they can't get credit at all. Lenders apply tougher standards and suppliers and customers become harder to deal with. Some analysts predict, based on the difficult year suppliers had in 2005, that 2006 will be even tougher on suppliers. In fact, the major chassis hard-parts manufacturer, Dana, declared bankruptcy in February 2006. S&P's outlook for the sector is grim. Fifteen of 50 suppliers tracked by S&P's have negative outlooks. Just three have positive outlooks. Twenty of the top 29 companies with public debt in last year's *Automotive News* list of the largest OEM suppliers in North America have junk bond ratings.⁴

⁴ Automotive News, by Robert Sherefkin, "Suppliers' Woes put Bond Ratings on the Junk Heap," 8/8/05

The biggest story of 2005 in the parts sector was the filing of Chapter 11 bankruptcy protection of Delphi. As a result of accounting investigations by the Securities and Exchange Commission, Delphi also had to restate earnings for 2001, 2002, and 2003. Delphi reduced its statement of retained earnings in 2001 to \$1 billion, down from \$1.26 billion. Delphi also cut its statement of net income from 2002 to \$318 million, down from \$342 million, but reduced its 2003 loss to \$10 million, down from a loss of \$56 million. Delphi admitted to improperly accounting for hundreds of millions of dollars in transactions, including overstating cash flow by \$200 million in 2000, and income by \$61 million in 2001. Delphi also said it will restate the value of \$85 million in credits from GM for health-care related obligations.

Delphi has 166 plants worldwide, including 45 in the United States and Canada, employs 185,200 people worldwide, including 147,900 hourly workers. Seventy-five percent of the hourly workers were union represented, including 25,200 by the UAW in the United States. About half of Delphi's business is with GM, which purchased \$14 billion worth of parts from Delphi in 2004. In Europe, however, GM only accounted for 18 percent of Delphi European revenues.

With thousands of idled workers, rising health care costs, and lower vehicle production, Delphi sought financial relief from its former parent company, GM, and from the UAW. Delphi is in the process of cutting 8,500 jobs and divesting poorly performing product lines and plants. Delphi was hampered by the cost of paying 4,000 to 5,000 idled workers who still receive 95 percent of their wages while they're laid off. Under its separation agreement with GM, laid-off Delphi workers are eligible to take vacant jobs at the automaker, but there are few openings at GM, as the automaker plans to close assembly plants and shed thousands of factory jobs over the next few years. With losses of \$4.8 billion in 2004 and \$1.5 billion in the first nine months of 2005 and no relief from the UAW, or from GM. Delphi filed for bankruptcy protection on October 8, 2005.

Delphi's workers made about \$27 per hour in wages. With health care and other benefits, Delphi workers' compensation amounted to about \$65 per hour. This is more than 10 times, at least, greater than the compensation paid to workers doing similar jobs in Mexico and China. Delphi sought to trim wages to about \$10-12 per hour and reduce benefits. The UAW found Delphi's plans to cut 24,000 U.S. factory jobs within three years and its wage offer unacceptable and has threatened to strike, putting more pressure on Delphi.

Also under Delphi's current labor pact with the UAW are provisions that prohibit Delphi from closing plants permanently. The status of the contract is in flux and Delphi has asked the courts to eliminate the ban on plant closings as part of a general overhaul of the agreement.

To prevent white-collar executives from jumping ship from Delphi during bankruptcy, Delphi CEO, Steve Miller, sought to preserve compensation, wage, and bonuses for Delphi executives. This also has elicited the ire of the UAW as an insult to the workers. The bonuses were also viewed as "unconscionable" by four large U.S. and European

pension funds, which brought a class action lawsuit against Delphi alleging fraud because many of the executives covered by the bonus scheme were involved in the accounting discrepancies.

To assist in avoiding a strike at Delphi, its largest supplier, GM gave Delphi temporary price cut relief, allowing Delphi to extend the timeline to negotiate with the UAW from December 2005 to January 2006. A strike at Delphi would cripple GM production within hours as Delphi supplies about 16 percent of GM's annual global parts purchases of \$86 billion.

A large part of GM's \$8.6 billion loss in 2005 was \$3.6 billion to fund the cost of factory closures and long-term pension and benefit obligations to former GM workers employed at Delphi. By mid-February 2006, there was no agreement between Delphi and the UAW, but progress was being made and the deadline was extended.

Delphi reported that it expects to emerge from bankruptcy in early to mid-2007, after substantially cutting its U.S. manufacturing operations, and modifying labor agreements to reduce wages and benefits. It expected to finance its operations with \$4.5 billion in debt facilities, plus other financing. Under the terms of Delphi's spinoff, GM may be liable for assuming pension and retiree benefits for UAW workers at Delphi. Analysts offer a broad range of billions of dollars of cost to GM as much as \$6-\$7.3 billion. At its extreme, GM could be forced to pay Delphi up to \$11 billion in the future for the pension, health care and other benefits that Delphi's retirees expect over the remainder of their lives.

Delphi's 2,200 U.S. lower tier suppliers have also been hurt. This was get worse if the court freezes about \$1.9 billion that Delphi owes them for parts already delivered. Many of the suppliers won't survive until Delphi emerges, if the suppliers can't renegotiate with lenders the loans that fell out of compliance when Delphi tied up the money the suppliers were owed. Many of Delphi's suppliers will lose business as Delphi sells its plants. Delphi is expected to shrink with annual revenue declining from about \$28 billion to \$20 billion. Its supply base is expected to shrink to about 1,800 suppliers. Delphi's restructuring, under the most optimistic scenario, is expected to cost suppliers and their investors and employees about \$3.3 billion in lost earnings, according to a study by Anderson Economic Group LLC.⁵

In early 2005, Visteon identified errors in its accounting, forcing it to delay regulatory filings and restate earlier results. In May 2005, Ford agreed to \$3 billion bailout of Visteon. Under the terms of the agreement, Visteon unloaded 23 unprofitable plants and about 18,000 hourly employees and 5,000 salaried employees to a holding company controlled by Ford. The agreement transformed Visteon into a company with annual revenue of \$11.4 billion, down from \$18.7 billion in 2004. Of the \$11.4 billion in sales about 40 percent are from North America (compared to 64 percent before the bailout), 40 percent from Europe (compared to 25 percent before), and 20 percent from Asia (compared to 11 percent before). The percentage of Visteon sales with Ford drops from

⁵ Automotive News, David Barkholz, "Delphi Suppliers go on Chopping Block," 11/7/05.

64 percent to 50 percent. After the bailout, Visteon reduced average labor costs from \$37 an hour to \$17. Visteon now concentrates on electronics, climate controls, and interiors.

Visteon is trying to diversify its customer base and be less reliant on its former parent, Ford. Ford remains Visteon's most important customer, accounting for roughly half of Visteon's global business. Hyundai is its second most important customer and by 2008 Visteon believes that Asian automakers will account for as much of Visteon's sales as Ford. In Europe, Ford accounted for 50 percent of Visteon Europe's revenue in 2005, down from 75 percent in 2001.

Visteon's labor force has also taken on a new appearance. After the Ford bailout, Mexican workers outnumber UAW union members at Visteon. Hourly workers in Mexico numbered 8,638, or 56.1 percent of total hourly workers, versus 6,201 hourly workers in the United States, or 40.3 percent. Before the bailout, U.S. hourly workers numbered 26,647 and accounted for 70.2 percent of the total hourly work force. Mexico accounted for 28.3 percent with 10,754 hourly workers.

Some of the major automotive parts companies that filed for bankruptcy in 2005 were Collins and Aikman, Tower Automotive Inc., Oxford Automotive, Internet Corp., and Meridian Automotive Systems Inc. Suppliers who have secured business with European and Japanese automakers generally fared better than those who depend on the Detroit 3.

The economic problems of the automakers rippled through the supply chain. Analysts continued to blame the heavy-handed procurement tactics of the Detroit-3 for many of the suppliers' problems, including an end to early-pay programs which lead to cash flow problems at some suppliers, and the automakers' unwillingness to offer significant relief. "Cash flow" means having enough money to pay the bills after taking into account interest, taxes, depreciation and amortization. Suppliers' cash-flow suffers when they don't receive timely payments for parts.

To help with suppliers' cash flow problems, GE Capital and other providers had a program of early-pay arrangements, which provided liquidity to the market at higher-than-average interest rates. Suppliers would get paid in a few days after shipment of parts, rather than the 45 days a customer is usually allowed. In return, the early-pay provider gets repaid a month or two later with interest at an annual rate ranging from 6 percent to 18 percent. However, in 2004, the U.S. Securities and Exchange Commission ruled that the early-pay arrangements were essentially loans to suppliers. That meant that guarantees of payment to the providers would have to be treated as bank debt, not accounts payable, on the books of the customers. Not wanting to show more debt on their balance sheets, auto companies withdrew the payment guarantees and without such backing, GE Capital and other early-pay providers terminated such programs. The result was that at least \$2 billion in liquidity that helped with the flow of transactions in the automotive supply chain dried up.

The effects of another issue confronting the industry have already been noted with respect to Delphi. The Sarbanes-Oxley Act passed in 2002 placed further stress on

already stressed companies. The act created a federal law that sought to eliminate Enron-style corporate fraud. Several companies have been forced to re-examine their accounting practices and have had to acknowledge improper bookkeeping practices and restate earnings from past years. These restatements are coming at a hard time for the industry. Companies that have had to restate earnings, and in some cases to delay filing annual reports with Securities and Exchange Commission, included Delphi Corp., Visteon Corp., and Collins & Aikman.

Federal regulators originally estimated that setting up internal controls to comply with Sarbanes-Oxley would cost about \$91,000 per publicly traded company. However, the Original Equipment Suppliers Association reported that its companies are paying between \$4.3 million - \$5.1 million to comply.⁶

In early 2005, it was evident that it would be another difficult year for parts suppliers as a major supplier, Collins & Aikman (makers of carpet and instrument panel components) shares tumbled in February and declared bankruptcy in May 2005. The troubles faced by Collins & Aikman in early 2005 made industry analysts worry that if there is a bankruptcy or two in the Tier 1 level, it could be disastrous to lower levels because the receivables would be lost from the bankrupt companies and it will make it harder to borrow money as suppliers can not borrow against the amount of receivable on its revolving line of credit.

Collins & Aikman Corp. was one of the largest U.S. automotive parts makers, globally employing about 23,000 people at 100 technical centers, sales offices and manufacturing sites in 17 countries. In its annual report Collins & Aikman reported that it received about 75% of its revenue from the Detroit 3. The crisis at Collins became acute when Standard and Poor's downgraded GM and Ford debt to junk levels in early May, hurting Collins' ability to draw on lines of credit backed by its receivables. The automakers agreed to fund Collins & Aikman Corp. for at least 90 days during the bankruptcy protection case, but when it was revealed that the automakers may have been shortchanging the supplier, creditors worried that the automakers intended to Collins & Aikman afloat just long enough to find other suppliers.

Tower Automotive, maker of vehicle frames and suspension parts, filed for bankruptcy protection in February 2005 because of material costs, high debt and production cuts at automakers. Since its bankruptcy filing, Tower announced plans to close three facilities and lay off 800 workers. Additionally, the company suspended a 401(k) match for salaried and nonunion employees. However, Tower did secure two contracts with North American automakers in June 2005, representing \$200 million in new business and GM agreed to continue buying parts while the supplier was in bankruptcy. Sales to GM accounted for about 10 percent of Tower's revenue.

⁶ Detroit News Autos Insider, by Brett Clanton, "Auto Suppliers Reel from Accounting Ills," 5/22/05.

Mergers, Acquisitions, and Bankruptcies

The Detroit 3 have shed most of their “captive” parts suppliers (and their high-rate labor contracts) as part of their struggle to reduce costs. This activity spawned an active business in mergers and acquisitions that peaked at \$30 billion in 1999. Between 1995 and 2001 the industry’s 23 largest publicly traded suppliers consolidated industry sales rose from \$62 billion to \$112 billion. However the boom left little trace of benefits for supplier operating margins and return on capital. Disappointing share returns and large debt have left many suppliers in need of affordable capital. Consequently, bankruptcies and distressed credits generated \$8 billion in losses to auto supplier lenders between 1999-2001. Debt levels among the top 23 suppliers tripled during the seven years - rising five times faster than the market value of the group’s common stock.

Helped by these consolidations, 20 of the world’s top 50 global OEM suppliers in 2004 were U.S. corporations, accounting for nearly half of the top 50’s total sales. A collection of firms spun off by GM became Delphi in 1999. Ford formed Visteon in the same way and for the same reasons in 2000. Both are at the forefront of the Tier One-Half revolution. Eventually every OEM may deal with no more than 50 or 60 Tier One-Half system integrators and no more than 300 Tier 1 firms, a considerable reduction from the 1970’s, when an OEM’s direct supplier list numbered several thousand.

Ever increasing competition, changing business models, and industry productivity gains are progressively adding to pressure for consolidation. Some industry analysts estimate that up to 90 percent of U.S. parts suppliers were acquired, merged, or left the business during the 1990s. Industry analysts speculate that, of nearly 800 major suppliers in 2000, fewer than 100 will be left by 2010 as a result of bankruptcies, mergers and acquisitions, and migration to other industries.

The Original Equipment Suppliers Association (OESA) reported that the U.S. automotive industry may lose half of its domestic parts suppliers by 2010 because of demands from automakers for cost and price cuts and increased competition. The pressure to consolidate is very intense, however mergers and acquisitions likely fell in 2005. Instead, many distressed firms have been filing for bankruptcy or exiting the market. Of the acquisitions that have been taking place, there has been an increase in the number by turn around or private equity firms.

In September 2005, Wilbur L. Ross Jr., a financier noted for taking over companies in distressed industries, turning them around and then selling them, bought \$50 million of the \$750 million in bank debt of Collins & Aikman, which could be converted to stock and a significant ownership of the company when it emerges from bankruptcy protection. Ross also owns \$15 million of the \$150 million of financing the company obtained for Chapter 11 reorganization.

Ross planned three giant new companies in safety systems, “metal bending” and interior trim, whose collective size could exceed Delphi Corp. Ross’ first goal is an interior trim company with up to \$15 billion in annual sales and virtually no debt. The Collins &

Aikman companies would be combined with International Automotive Components Group, Ross' planned joint venture with Lear Corp.'s interior trim business and it would generate pro forma sales of \$6.09 billion, making it among the biggest players in the \$75 billion global auto sector. For its part, Lear is spinning off its \$3.5 billion global interior trim business into the joint venture. Lear would retain minority stake in the joint venture and operate the business. Lear's interior trim group has 20,000 employees and 44 factories in North America and Europe. Seventy percent of its sales are to its U.S. markets and 29 percent in Europe.

Ross was also reported to be interested in buying Delphi Corp., if it was put up for sale or filed for bankruptcy. When asked by Automotive News if he planned to buy Tower Automotive Inc., Ross said he was interested in the company, but would not confirm if it was on his "shopping list".⁷ Tower would fit Ross' plans for a metal-bending supplier, which he hopes could reach \$10-15 billion in annual sales. Ross' first venture in metal-bending buyouts came from his \$30 million acquisition of a 25 percent stake in Oxford Automotive, a stamping company. Oxford Automotive went into Chapter 11 bankruptcy in December 2004, citing poor auto sales, higher commodity prices and price pressures from automakers.

Continued price pressure from both Tier 1s and OEMs will drive consolidation at the Tier 2 and Tier 3 levels. Indeed, smaller suppliers face the largest shakeout in the coming years. This is primarily true because they much are much more likely to be relying on single contracts or multiple contracts from only one of the Tier 1s or OEMs. Thus, they are much more exposed to cancellation of product lines. They are also more prone to bankruptcy than the larger Tier 1s because they have less leverage with their bankers. While smaller companies will often be turned down by their bankers when they exceed their credit lines, larger companies can potentially "owe too much to fail."

The pressures driving industry consolidation will remain for some time. Former GM Chairman Jack Smith, now with Alix Partners, said that GM was grouping its parts makers into three categories: those who are functioning properly and can win additional contracts, those who have problems that can be "fixed", and those who are not performing well enough to win new business.⁸ Companies that sit on the sidelines risk being too small to compete or unattractive to potential suitors. For parts makers, further industry consolidation will be a key factor in their survival.

As Chinese experience with producing automotive parts grows, so does their interest in entering the U.S. market. Chinese company, Wanxiang Group, which owns stakes in six U.S. manufacturing companies that employ about 1,000 people with an estimated 2005 sales of \$400 million, has expressed an interest in acquiring Delphi assets. Wanxiang manufacturers universal joints, brake disks, bearings, driveshifts, and other products. It has global revenue of \$2.6 billion and employed 31,800 people worldwide in 2004.

⁷ Automotive News, by Robert Sherefikin, "Can Wilbur Ross Rescue Suppliers," 12/19/05.

⁸ The Detroit News, September 30, 2003.

Wanxiang's Chinese operations have the same shortcomings as many Chinese suppliers-when volume goes up, they've had trouble maintaining quality. Technological innovation is another problem. Wanxiang can deliver systems for local companies, but it is not capable of highly technical improvements. Wanxiang admits it has some catching up to do and is looking to cooperate with major manufacturers to improve its abilities.

Market Composition

Original Equipment

The Original Equipment Suppliers Association (OESA) expects that the industry will shrink from 10,000 suppliers in 2000 to just 5,000 by 2010 as the result of industry consolidations and exits.

One pressure point arises from transplant automakers bringing their own suppliers. Unless a U.S. supplier has something to differentiate its products, the transplants will likely maintain their traditional suppliers with whom they have long established relations. In any case, many purchasing decisions continue to be made in the transplant's home country. U.S. suppliers likely need to work with the home country purchasing arms in order to gain entrance to transplant sourcing.

Transplant suppliers are gaining share in the North American market. According to Automotive News⁹, "In 2004, foreign-affiliated suppliers produced 33.1 percent of original equipment parts sold in North America, up from 27.5 percent in 2001" (Table 5, Charts 3 and 4). The foreign-affiliated suppliers are making significant inroads into the U.S. market through acquisitions, sales to transplant automakers, and sales to the Detroit 3. Moreover, transplant production in the United States has grown exponentially, from only 2.6 million light vehicles in 1999 to nearly 3.9 million light vehicles in 2005, with further growth anticipated during 2006.

Another pressure point results from the Detroit 3 purchasing more foreign-based supplier components. For example, Siemens, a German supplier, which had no share of audio systems in North America in 2003, had a 25 percent share in 2005. Also, Denso Corp., the fourth largest supplier in the world, reported that its sales to the Detroit 3 were rising and that they represent 40 to 45 percent of Denso's business in North America. Denso is a member of the Toyota group and expects double-digit growth over the next five years in North America. Toyota currently accounts for about 40 percent of Denso America's business and the Detroit 3 account for another 30 percent.

The third major pressure point results from the Detroit 3 expecting more engineering support from their suppliers plus lower prices for the parts they buy. For example, General Motors has 3,200 suppliers, but the top 300 account for 80 percent of GM's parts purchases. GM opened a new program in 2005 which overlaps and then replaces the

⁹ Automotive News, November 28, 2005, "Transplant Suppliers Surge in N.A." by Lindsay Chappell, pp. 1 and 35.

previous program “20/3”. The previous program, aimed at its top 250 suppliers, required that they meet 20 percent cost-cutting targets in 3 years and that they consider developing offshore manufacturing capability for the parts they supply. The new program continues to stress the same cost cutting and offshore production. GM expects the offshore development will result in lower costs and also give it added global manufacturing flexibility.

The effect of the foreign-based suppliers’ increased share of the N.A. market is affecting the N.A. content of vehicles. Some Japanese vehicles, such as the Toyota Sienna has a 90 percent U.S. and Canadian component content, while traditional American vehicles, such as the Chevrolet Suburban, Ford Mustang and Jeep Grand Cherokee have between 61-72 percent U.S. and Canadian content.

Aftermarket

According to some industry observers, the whole aftermarket parts manufacturing base should be separated from OE suppliers. On the OE side, a company averages just four customers and in the aftermarket they typically might have 4,000. On the OE side, they are selling 100,000 units per customer, while in the aftermarket they are shipping 10 units. Some observers also argue that they are different businesses and the only logic to put them together before was that they are all involved with auto parts. Other industry observers disagree. They argue that there are good synergies that exist for suppliers in terms of technology, facilities, manufacturing and engineering where making aftermarket parts makes good business sense for OE suppliers. Suppliers have already invested in the tooling, design, engineering and testing. The profit margins of the aftermarket are also highly attractive compared to the OE side.

The automotive aftermarket sector typically does not feel the same price and cost cut pressures from OEMs that the OE supply chain feels, but the sector is still affected by the state of the economy. The size of the U.S. automotive aftermarket in 2005 was projected to have been about \$195 billion, up 2.2 percent from the previous year, according to the Automotive Aftermarket Suppliers Association (AASA). AASA forecasted that the aftermarket would reach around \$202 billion in 2006.

Factors influencing the size of the aftermarket include economic recovery, number of vehicles reaching prime aftermarket age of about 8 years, cost of gas, amount of unperformed maintenance, and the ability to get or keep used cars in circulation. In 2006, the number of registered vehicles in the United States will continue to grow and more vehicles are “coming of age” when they need more repairs. The aftermarket is also experience a shift from Do-It-Yourself (DIY) to Do-It-For-Me (DIFM) consumers as vehicles become more complex and baby boomers age. Thus, the health of the automotive aftermarket parts industry is in large part affected by the number of vehicles on the road and the age of the vehicles. There were 237.2 million vehicles registered in 2004 in the United States, compared to 231.4 million vehicles in 2003. AASA reported that the proportion of vehicles between 6-10 years old decreased slightly in 2004, but this figure should increase as vehicles sold in the 1990s enter this age bracket. The larger and

older fleet reflects improved overall durability, and indicates a growing market for replacement aftermarket parts such as filters, mufflers, brakes, and tires, as well as performance and styling products.

According to Aftermarket Business, replacement/aftermarket parts are no longer judged on anything other than form, fit, and function, since quality parts can and do come from every where. No longer is the “made in America” mark an automotive indication of better quality over parts from other countries. Moreover, other countries are producing quality parts at lower prices. This shift to acceptance of foreign parts has been fueled by China’s and India’s successes in entering the American aftermarket.¹⁰

Aftermarket suppliers also need to be able to keep up with new technology. A challenge to the aftermarket is getting repair information so that independent dealers and shops can compete with OE dealers and shops. With the development of more complex electronic equipment, it is difficult for the aftermarket to compete with the OE. However, often the aftermarket has quicker product development cycles for new products in the telematics segment, giving it a chance to step in with more cost effective solutions.

Remanufacturing

The remanufacturing industry produces goods that are entirely or partially comprised of components recovered from end-of-life products. The process transforms these recovered components into like-new goods. This reuse of inputs yields important economic and environmental benefits. Remanufactured goods have the appearance, performance, and life expectancy of new goods. They meet the same performance requirements as, and enjoy warranties similar or identical to, equivalent new goods. In short, fully remanufactured products are intended to be identical to and indistinguishable from those products manufactured entirely from virgin new parts or components.

Remanufacturing reduces the volume of material entering the waste stream by re-directing retired products to the remanufacturing process. Remanufacturing thereby reduces the amount of raw materials consumed and recovers some of the energy and labor costs associated with their production. Remanufacturing saves on new raw material inputs and on energy use, because recovered goods retain the energy and inputs from their original manufacture. For instance, remanufacturing of automotive alternators requires only 12 to 14 percent of the energy that it would normally take to manufacture a new alternator. These savings result in lower product prices.

Automobile dealers and independent service shops often use remanufactured auto parts to meet vehicle manufacturers’ warranty requirements, and to otherwise service aftermarket/repair needs. A reliable source of affordably priced parts is important to providing good customer service and thereby maintaining brand image and market position. The remanufacturing industry has a large presence in the U.S. automotive aftermarket sector and it is growing in importance. Remanufactured automotive parts represent an estimated \$85-100 billion industry worldwide. Based on estimates by the

¹⁰ Aftermarket Business, by Sativa Ross, “Staring Down Commoditization,” 12/05

U.S. Automotive Parts Rebuilders Association (APRA), \$35-\$40 billion in remanufactured auto parts, plus associated equipment and supplies, were marketed in the United States in 2005. There are roughly 150 production engine remanufacturers, and around 1,000 automotive parts remanufacturers.

However, domestic demand for remanufactured automotive parts in the United States has begun to slow, so it is imperative that U.S. parts remanufacturers and the associated equipment and supplier industry look outside the United States for increased sales opportunities. Many countries limit trade in remanufactured products. Such barriers include outright trade bans, higher tariffs and fees, or overly stringent regulation, certification, and inspection requirements. Many of these barriers exist because countries associate remanufactured goods with used goods and waste, or they use this as an excuse to protect their own industry. The U.S. government has been working with industry to address the barriers to trade in remanufacturing through our free trade agreement negotiations, the WTO Doha Round, and the 3Rs (Reduce, Reuse, Recycle) Initiative.

Domestic Sales Forecasts

The outlook for U.S. auto suppliers remains gloomy for 2006, following a year punctuated by bankruptcies, high raw materials costs, and market share loss and production cuts by GM and Ford. Suppliers with significant health care and pension costs will struggle to stay competitive. Because U.S.-based suppliers largely remain heavily tied to the U.S. automakers, many analysts predict the suppliers will keep suffering until they can find replacement business with foreign automakers or exit the industry to pursue other opportunities. Analysts also predict that in this environment, further restructuring and downsizing of the North American auto parts industry will occur.

Original Equipment

The size of the U.S. Original Equipment parts market was estimated to be \$159.6 billion in 2004 (Table 5 and charts 3 and 4). This is a decrease of 1.6 percent from the estimated \$162.1 billion in 2003. Of the \$159.6 billion, U.S. suppliers provided \$95.0 billion and imports accounted for \$64.6 billion. The amount sourced from U.S. suppliers went down 9.5 percent, which was more than the decrease in the size of the U.S. OE market, thus the market share of the U.S. suppliers in the OE market is decreasing. The share of U.S. OE parts suppliers went from 64.4 percent in 2003 to 59.5 percent in 2004. The highest share of U.S. OE suppliers in the U.S. OE market in recent years was 74.9 percent in 1999. These negative trends likely continued through 2005 and will continue in 2006.

Globally, the top 100 OEM suppliers recorded \$401.5 billion in sales in 2003, an increase of 13 percent from \$353.4 billion in sales in 2002 (Table 6, Charts 5 and 6). The top 10 global OEM suppliers saw a 12.8 percent increase in sales to \$166.6 billion in 2003 from \$147.7 billion in 2002. Robert Bosch GmbH passed Delphi Corporation in 2004 to become the world's largest supplier, measured by global sales. Bosch had worldwide

original equipment sales of \$27.2 billion, while Delphi had an estimated \$24.1 billion, down 8 percent from 2003.

Despite problems in the North American market, the top global suppliers became larger in 2004. Automotive News reported that the top 100 global suppliers' sales grew 13.0 percent in 2004 over 2003. The Top 10 suppliers on that list grew 12.9 percent (Table 7, Charts 7 and 8). If Delphi, whose revenues dropped 8.0 percent, was removed from the list, the remaining 9 suppliers grew an average of 16.9 percent. That is a significant increase when compared to the 6.1 percent growth of global vehicle sales. Popular gadgets in the electronics and telematics components were responsible for much of the global growth.

In North American equipment sales, Delphi still ranks as the largest supplier, with estimated sales of \$17.6 billion, while Bosch ranked sixth in the North American market. Within North America, the 150 largest suppliers had sales of \$200.6 billion in 2004, up 7.4 percent from 2003. The top 10 North American suppliers accounted for 41.3 percent of the total in 2004, down from 42.4 percent in 2003. Those suppliers closely linked to Ford and GM, like TRW Automotive, Delphi, Lear Corp., and Visteon, reported lower revenue in 2004.

Other Industry Developments

Materials

After rapidly escalating in 2004/2005, steel prices went down a little in late 2005 because steel inventories at service centers, the middlemen between the mills and customers, increased and because China imported (by weight) 18 percent less. Service centers were stuck with larger inventories from furious buying in 2004 that created shortages and high prices. Although steel prices have come down, they are still high compared to a few years ago. Petroleum resin and energy prices have also increased in the past year. With these price increases in raw materials and no way to pass them on, when they attempt to get price relief from their customers, suppliers were struggling to survive.

The larger suppliers and automakers took suppliers to court to force continued shipments of parts. For example in 2005, TRW Automotive Holdings Corp.'s Kelsey Hayes Canada subsidiary sued FAG Automotive Inc. to continue shipping hub bearings at the price agreed to in the original contract. Delphi also successfully sued a handful of suppliers, including Eaton Corp., to force them to ship parts at original terms.

Counterfeiting

The counterfeiting of automotive parts continues to be a major issue in the automotive parts industry. Counterfeit parts pose safety issues as poor quality substitutes of original parts and affect companies' reputations. The Motor and Equipment Manufacturers Association (MEMA) estimated that counterfeit automobile parts cost the American

automotive supplier industry over \$12 billion annually. Counterfeiters are taking jobs and money away from legitimate companies, destroying brand names, increasing warranty claims, and requiring legal fees and costly investigations.

A 2005 study by Frost and Sullivan found that counterfeit and gray market automotive components accounted for as much as 3.2 percent of all global counterfeit trade and that automotive parts counterfeiting is increasing at an annual rate of 9 to 11 percent, which is 1 to 2 percent higher than the average. The Frost and Sullivan study found that most counterfeit goods are still coming from China because the laws are more lax and social-economic structure supports counterfeiting. Several bills have been introduced in U.S. Congress to strengthen U.S. laws against counterfeit goods sold in the United States.

Hybrid and Diesel Technology

With encouragement from the Federal and state governments, the industry is turning its attention to creating more fuel-efficient vehicles. The positive consumer and political response to hybrid vehicles has increased the focus on hybrid technology. In 2005, 205,749 hybrids were sold in North America, more than double the 88,000 hybrids sold in 2004. This is not a large portion of the 17 million in total sales, but it does represent a large increase since Honda introduced the first hybrid to the U.S. market in 1999.

Because of U.S. environmental regulations, GM, Ford and Japanese automakers are turning their research and development attention to hybrid technology for the U.S. market. DaimlerChrysler and Volkswagen, however, are pushing Washington to include diesel engines in programs that promote environmentally friendly and advanced fuel vehicles. Diesel is dominant in Europe, but despite significant reductions in diesel emissions, it remains difficult to engineer diesel powered vehicles meet stricter U.S. emissions regulations. The fact that only about 34 percent of filling stations in the United States sell diesel fuel also limits their attractiveness to consumers. The United States will introduce regulations in 2006 that reduces sulfur content in motor fuels, which will make meeting emission regulations much easier. Hybrids, on the other hand, use a gasoline engine with the assistance of electric motors, reducing emissions compared to traditional gasoline engines. Analysts predict that there will be about 50 hybrid vehicle models available in the United States by 2010. J.D. Power and Associates reported that U.S. hybrid sales are expected to represent 3.5 percent of the market by 2012.

To keep up with U.S. demand for hybrid vehicles, the Detroit 3 are having to turn to foreign suppliers for batteries, electric motors and power inverters. The U.S. supply chain is immature for hybrids, according to Larry Nitz, Executive Director of GM's hybrid program.¹¹ Currently Japanese suppliers are the source for most of the world's hybrid parts. Some U.S. suppliers, like Johnson Controls, are trying to enter the market, but uncertainty is keeping U.S. suppliers from committing capital to an emerging market.

Ford promised to boost production of hybrid vehicles to 250,000 cars and trucks per year by 2010. Toyota plans to sell 140,000 hybrid vehicles in the United States in 2006.

¹¹ Detroit News Autos Insider, by John D. Stoll, "Supply chain crimps hybrid output" 9/20/05

Engineering, Safety, and Telematics

All automakers are turning more engineering responsibility over to their suppliers. According to a 2004 study by Roland Berger, suppliers delivered 40 percent of the value added to vehicles in 2002. The study forecasts that by 2015 it will be 55 percent.

Some suppliers, like TRW Automotive, with products from seatbelts and air bags to antilock brakes and electronic stability control systems, have benefited from automakers emphasis on safety.

Some analysts predict that electronic components of vehicles could account for 35 percent of the cost of making a car by 2010, up from 22 percent in 2005, and that the amount of software in cars would double every three years. But these electronics add to the vehicles' complexities and accounted for about 70 percent of breakdowns in 2005.

Telematics, communication, navigation, and entertainment systems in vehicles, are complex computerized electronic equipment that are becoming more prevalent. Analysts predict that telematics will be a \$6 billion a year industry by 2010.

Production

In 2004, the value of auto parts industry shipments was \$212.5 billion, according to the U.S. Census Bureau's Annual Survey of Manufacturers (Table 2). U.S. parts production capacity greatly exceeds current utilization; in part because automakers encourage suppliers to be close to auto producing plants to improve "just-in-time" delivery of parts, quality control, and flexibility. Automakers are even experimenting with putting suppliers inside the production plants.

The Detroit 3 have been examining supplier park systems. The appeal of supplier parks is that it puts parts suppliers in or next to assembly plants, significantly shortening the response time of suppliers, shortening lead time, saving money on shipping parts, and lessening the chance of disruptions. Ford has the first North American automotive supplier park in the Chicago area with 12 suppliers within half a mile of the assembly plant.

For suppliers that produce complex modules and are required to make 'just-in-time' delivery, there are potential benefits to being located in a supplier park. For other suppliers, however, it makes little sense to spend money on building a plant for just one customer to turn out parts that are easy to ship. Suppliers will need to consider the costs and benefits of being part of a supplier park to service just one customer. There may other downsides too. In tight labor markets, suppliers would be competing for employees with the automakers, which pay higher wages. A bigger issue is what happens if the automaker does not live up to its plans. It becomes a capacity risk for suppliers at a time when many are struggling to keep existing capacity running.

Employment Trends

The Original Equipment Suppliers Association (OESA) estimates that there were 30,000 firms in the North American automotive supply chain in 1990, but just 10,000 in 2000 and 8,000 in 2004. By 2010, their numbers may dwindle to no more than 5,000, each enjoying significantly higher sales volumes, but each likely to require significantly fewer employees.¹² OESA/RolandBerger forecasts an 11% decline in auto parts production worker employment between 2003 and 2010, caused primarily by increased productivity paired with slowing growth in U.S. output. While some industry observers may question the precision of these estimates, none will disagree with the magnitude of the pressure the industry is experiencing.

The motor vehicle parts manufacturing industry (NAICS 3363 and NAICS 336211) has about 750,000 workers, or 7.8 percent of the total U.S. durable goods manufacturing employment (Table 8 and Chart 9). The Bureau of Labor Statistics (BLS), U.S. Department of Labor, reported that employment in the automotive parts industry was an estimated 743,600 jobs in 2005. This is a decline of 1.7 percent from the 756,600 jobs in 2004. The last time that jobs increased in the automotive parts industry occurred in 2000, when employment grew 0.3 percent to 920,300. However, employment fell sharply the following year to just 850,200 jobs.

The Annual Survey of Manufacturers released in December 2005 counted 683,097 employees in the automotive parts industry (NAICS 3363211 Motor Vehicle Body Manufacturing and NAICS 3363 Motor Vehicle Parts Manufacturing, which would capture most Tier 1s, some Tier 2s, but probably few Tier 3s) in 2004 (Table 9). This is a decline of 4.1 percent from the 712,527 employees in 2003 and 10.4 percent decline from the 762,735 employees in 2002. Another source, the Center for Automotive Studies in Ann Arbor, reported that the number of jobs in the U.S. automotive parts industry dropped from 840,000 in 2000 to fewer than 680,000 in 2005.

With so many jobs being lost because of reorganizations and restructuring, the projections for U.S. automotive parts industry employment are not rosy for 2006 or beyond. One positive note for employment in the sector, however, is that, although U.S. suppliers are reducing jobs, import brands and their suppliers are increasing their North American research and development staffs, but not by enough to offset the total job loss.

Union membership is at record lows and labor's political clout is seriously compromised within many unions. Less than 8 percent of the nation's private work force is unionized today. When public employees are added to the figure, only 12.5 percent of all workers belong to unions, about half the amount there were 25 years ago. The UAW had fewer than 640,000 members in 2005, down from 1.5 million in 1980. Part of this decline was due to greater productivity that allowed auto companies to build more cars with fewer people, but it also reflects a reluctance on the part of blue-collar workers to join unions,

¹² An Odyssey of the Auto Industry, presented before the SAE World Congress on March 8, 2004.

especially in the new Southern transplants. Industry experts expect that union membership will drop another 70,000 to 570,000 in 2006 because of buyouts and bankruptcies. Recent actions by the UAW agreeing to let some parts companies, such as Delphi Corp., hire new workers at a lower pay scale may be having a negative impact on membership.

Suppliers are negotiating and re-negotiating contracts with unions in efforts to cut back on labor costs. UAW leaders realize that prospects of even maintaining current pay and benefit levels are dim because so many large suppliers are in Chapter 11. Thus, suppliers are able to lower wages and cutting back or eliminating health care, pension, and other benefits.

International Trade

According to latest United Nations data available, the United States accounted for 13.5 percent of the world's automotive parts exports in 2004 with shipments valued at \$76.1 billion. This result is primarily because of shipments to Canada and Mexico. These parts are used for production of vehicles destined for return to the U.S. market (Table 10). Germany was the leading exporter of automotive parts in 2004. China is quickly growing as a leading parts exporter, with sales exceeding Italy, Korea, and United Kingdom and nearing, if not exceeding, Japan's in 2004.

According to U.S. Census data, the United States exported a record \$55.1 billion worth of automotive parts in 2005. This is an increase of 4.6 percent from the \$52.6 billion worth of automotive parts in 2004 (Table 11, Charts 10 and 11). Exports reached \$53.7 billion in CY 2000 but fell 7.3 percent to \$49.8 billion in CY 2001. Census 2002 data showed that U.S. automotive parts exports increased about 0.6 percent over 2001 rates to \$50.1 billion, but plunged 3.2 percent in 2003 to the lowest export value since 1998.

Automotive parts exports to Canada (\$31.2 billion) and Mexico (\$11.4 billion) accounted for 77.5 percent of the total U.S. parts exports in 2005, up from the 72.8 percent they accounted for in 2004 (Chart 12). U.S. automotive parts exports to Japan and the European Union 15 accounted for \$6.5 billion, or 12 percent, of the total U.S. automotive parts exports. Combined, the NAFTA, European Union 15, and Japanese markets accounted for 89 percent of total U.S. automotive parts exports in 2005.

The United States also imported a record high amount of automotive parts in 2005, reaching \$92.2 billion, an increase of 10.4 percent from \$83.4 billion in 2004 (Table 12, Charts 10 and 13). In 2005, Canada, accounted for \$21.6 billion worth of U.S. automotive parts imports and Mexico accounted for \$24.9 billion. Together automotive parts from these two countries accounted for 50 percent of the total U.S. automotive parts imports, down from 52 percent in 2004 (Chart 14). This continues the slight decrease in the percentage of automotive imports coming from NAFTA partners in the past few years. This decline has been more than offset by the increased input from China. Rounding out the top five supplier countries of automotive parts to the United States in 2005 were Japan (\$16.4 billion), Germany (\$6.7 billion), and China (\$5.4 billion).

Automotive parts imports from China increased substantially, 39.2 percent, from the \$3.9 billion in 2004. In 2004 imports from China rose 39.3 percent, from \$2.8 billion imported in 2003. Combined, Mexico, Canada, Japan, Germany, and China accounted for \$75 billion, 81 percent of total U.S. imports of automotive parts.

As a result of the sharp increase of automotive parts imports, the U.S. trade deficit in automotive parts increased to a record level of \$37.1 billion in 2005, a 20.4 percent increase over 2004 (Table 13, Charts 10 and 15). This is the largest automotive parts trade deficit in history, and it is expected to continue to climb as U.S. automotive production loses market share to increasingly competitive foreign production.

China

In 2005, China surpassed Japan to become the world's second largest automotive market, behind the United States. Although this growth has presented opportunities for many automotive companies, it also has brought forth some challenges as well. For example, China's increased demand for raw materials, such as steel and petroleum, has led to increases in prices for these materials worldwide. Most of the world's largest Tier 1 suppliers already have plants and research facilities in China. They were encouraged to locate in China by their customers, the global vehicle manufacturers, since the majority of China's traditional domestic suppliers were not competitive. This influx of foreign suppliers into China and the increased competition has helped to improve productivity and quality. Foreign auto parts companies continue to announce plans to open or expand their Chinese operations to supply China's automotive market and/or international markets. For competitive suppliers, China has become an attractive export base given its low labor costs, and the global automotive industry's constant pressure to reduce costs.

Automakers are using the price of Chinese parts, particularly commodity-type components, as a benchmark when sourcing from suppliers worldwide, putting added pressure on U.S.-based suppliers. Within the last year, U.S. imports of Chinese auto parts grew 39 percent from \$3.9 billion in 2004 to \$5.4 billion in 2005. By contrast, U.S. exports to China dropped 2 percent in 2005, falling from \$636 million in 2004 to \$623 million in 2005. Auto parts suppliers also expect the Chinese aftermarket and accessories segment to grow as the market increases for both new and used autos, and the number of outlets offering aftermarket parts and services expands.

The Chinese government's auto policy strongly encourages the development of the local supplier industry, as well as automotive-related R&D in China. Although there are no longer formal local content requirements, China has a pending tariff classification scheme that levies higher tariff rates on various individual auto parts that can be construed as constituting, as a group, an entire vehicle or the bulk of an entire vehicle. Under the guidelines, beginning in July 2006, parts would be assessed a higher rate of duty of 25 percent, which is the current rate for importing a passenger car into China, rather than the duty for automotive parts, which ranges from 10 – 15 percent. If implemented, these measures will no doubt decrease the number of vehicles built in China using "completely knocked down" (CKD) or "semi-knocked down" (SKD) assembly methods, and

encourage the use of local suppliers. Both the United States and the European Union have requested WTO consultations with China regarding this issue.

When deciding whether or not to set up an operation near a specific customer in China, U.S. suppliers need to determine if economies of scale can be achieved, if energy sources are reliable, and if they will be able to source from reliable, lower-tier suppliers or to import subcomponents at a competitive price. If entering into a joint-venture arrangement, any potential partner should be carefully evaluated. Automotive-related counterfeiting in China also remains a concern for the industry, especially when sharing intellectual property with partners or suppliers. When considering sourcing from China, U.S. companies are cautioned to not be lured by price and/or low wage rates alone, but to consider their potential suppliers' quality levels, a supplier's technical and engineering expertise to cope with design changes, as well as all of the various logistical factors, such as necessary lead time, and delivery schedules and costs. Almost all Chinese parts suppliers are contract producers of low-tech parts. Chinese producers often lack the scale to produce the large volume of parts that automakers require. Currently, they lack the know-how needed to meet complex Federal vehicle safety standards and ensure that prototype parts meet the automakers' specifications.

U.S. companies often find that the labor cost savings are offset by errors, shipping costs, and unauthorized engineering changes. U.S. companies are still moving to China, but momentum has slowed, analysts say. For years, suppliers have been pressured to move production to China by automakers, or out of fear of losing contracts to competitors moving to Asia. But as suppliers realize that China may not be all that is cracked up to be, the suppliers are not returning jobs to the U.S., but taking ventures to other low-wage countries, such as India and Mexico.

Because the transfer of knowledge would allow the Chinese to compete against the proprietors and may invite counterfeiting, many companies are reluctant to send advanced technology to China. Some analysts worry about the long-term buying of parts from China with the possibility of a further revaluation of China's dollar-pegged yuan. If the yuan were to rise rapidly against the dollar, as some economists predict, it could erase much of the savings currently being derived from sourcing from China.

The U.S. trade deficit with China reached \$201.6 billion in 2005, up from \$161.9 billion in 2004, and almost double the \$103 billion in 2002 (Table 14 and Chart 16). By comparison, the U.S. trade deficit with Japan was \$82.7 billion in 2005. The United States imported \$5.4 billion worth of automotive parts from China in 2005. This was a 39.2 percent increase over the \$3.9 billion imported in 2004. In 1999, the United States imported \$1.3 billion worth of automotive parts from China. This represents an annual average growth in imports of about 54 percent for the past 6 years.

The McKinsey Quarterly¹³ estimated that Chinese parts accounted for less than 1 percent of the value of the components in U.S.-made cars and light trucks. Imports from China

¹³ McKinsey Quarterly Web Exclusive, Stefan Knupfer and Glenn Mercer, "Can U.S. auto suppliers stay ahead of Chinese rivals," 09/05.

were still small compared with the \$21.6 billion in parts brought in from Canada, \$24.9 billion from Mexico, and \$16.4 billion from Japan. Moreover, an estimated 80 percent of Chinese imports were used to repair cars already on the road, i.e. aftermarket parts, and only 20 percent go to automakers.

Conclusion

The U.S. automotive parts industry can expect a difficult year in 2006 and beyond. Economic strains will continue to derive from Delphi's Chapter 11 restructuring, Ford and GM's production cuts, steel prices, price and cost cut demands from U.S. automakers, and increased competition from foreign suppliers. The industry expects the "Detroit 3" to continue to demand price or cost cuts as they continue their efforts to stave off further market share erosion. The industry can expect more departures and consolidations of suppliers as profit margins are squeezed. Automakers and suppliers will experiment with innovative and alternate business models to reduce financial pressure.

Automotive parts from China will continue to grow and account for a growing share of U.S. automotive parts imports. The U.S. automotive parts trade deficit with China will likely continue to grow the next few years as exports to China will likely not keep up with imports from China. Automotive parts companies will continue to move production to China and other low-wage countries like India, Mexico, and Eastern Europe. The U.S. can therefore expect to see continued growth of automotive parts imports and further export declines.

Appendix 1

Office of Aerospace and Automotive Industries Automotive Parts Product Listings Revised 11.03.04

To facilitate the analysis of trade data for automotive parts on a market-based model, the Office of Aerospace and Automotive Industries (OAAI) has created six product groupings from the available, individual 10-digit product codes. The core of the codes are contained in Chapter 87, **Vehicles Other Than Railway or Tramway Rolling-Stock, and Parts and Accessories Thereof** of the internationally-agreed Harmonized Tariff System (HTS). We list these groups and their codes below. Some codes are not valid for current years, but are included to assure that data for products so coded for previous years are retrieved from the database and assigned to the appropriate OAA group.

The OAA groups are not “official” product subcategories, and are not listed in the Harmonized Tariff System nomenclature published by the U.S. International Trade Commission (USITC) for coding imports (Internet address: <http://www.usitc.gov/taffairs.htm>), nor in the parallel “Schedule B” published by the U.S. Census Bureau for coding exports (<http://www.census.gov/foreign-trade/schedules/b/2001/sb87.htm>). The OAA attempts to closely approximate the core automotive industry by excluding certain items for example, parts explicitly listed for motorcycles, golf-carts, snowmobiles, agricultural equipment, etc.

Readers should realize that OAA is not the only, nor the “official,” U.S. government source for trade data on the auto industry, nor are we able to produce custom data runs for the public. Persons seeking data for individual or different product codes are welcome to utilize at no charge the data retrieval system operated by the USITC to access the federal government’s official trade data base. Please note, some of the data on the trade database may be restricted from the public. The ITC’s retrieval system, *Trade DataWeb*, can be accessed at http://dataweb.usitc.gov/scripts/user_set.asp.

HTS Codes by Product Group

HTS Codes for U.S. Imports of:	
Bodies and Parts	
7007110000	Safety Glass
7007110010	Safety Glass
7007211000	Windshields
7007211010	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
8301200000	Locks
8301200060	Other Locks
8302103000	Hinges
8302303000	Other Mountings

HTS Codes for U.S. Exports of:	
Bodies and Parts	
7007110000	Safety Glass
7007211000	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
8301200000	Locks
8302103000	Hinges
8302300000	Other Mountings
8707100020	Bodies
8707100040	Bodies
8707905020	Bodies

8302303010	Pneumatic Cylinders	8707905040	Bodies
8302303060	Other Mountings	8707905060	Bodies
8302306000	Other Mountings	8707905080	Bodies
8707100020	Bodies	8708100010	Stampings of Bumpers
8707100040	Bodies	8708100050	Bumpers and Parts
8707905020	Bodies	8708210000	Seat Belts
8707905040	Bodies	8708290010	Stampings of Bodies
8707905060	Bodies	8708290025	Truck Caps
8707905080	Bodies	8708290050	Parts & Access. of Bodies
8708100010	Stampings of Bumpers	8708290060	Parts & Access. of Bodies
8708100050	Bumpers and Parts	8708295025	Truck Caps
8708103010	Stampings of Bumpers	8708295070	Other Pts. & Access. Bodies
8708103050	Bumpers	8708990045	Slide-in Campers
8708106010	Stampings Parts of Bumpers	8708998030	Slide-in Campers
8708106050	Parts of Bumpers	9401200000	Seats
8708210000	Seat Belts	9401901000	Seat Parts
8708290010	Stampings of Bodies	9401901010	Seat Parts of Leather
8708290025	Truck Caps	9401901080	Seat Parts
8708290050	Parts & Access. of Bodies	9403901000	Parts of Furnitures
8708290060	Parts & Access. of Bodies		
8708291500	Door Assemblies		
8708292000	Body Stampings		
8708295010	Stampings		
8708295025	Truck Caps		
8708295060	Other Parts		
8708995045	Slide in Campers		
8708996100	Airbags		
9401200000	Seats		
9401200010	Child Safety Seats		
9401200090	Seats		
9401901000	Seat Parts		
9401901010	Seat Parts of Leather		
9401901020	Seat Parts of Textile		
9401901080	Seat Parts		
9401901085	Seat Parts		
9403406000	Wooden Furniture for M.V.		
9403506000	Wooden Furniture for M.V.		
9403901000	Furniture?		
9403901040	Parts of Furniture for M.V.		
9403901050	Parts of Furniture for M.V.		
9403901080	Parts of Furniture for M.V.		
9403901085	Parts of Furniture for M.V.		

Chassis and Drivetrain Parts

4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
6813100050	Brake Linings & Pads
6813900050	Friction Materials
7318160010	Lugnuts
7318160015	Lugnuts
7318160030	Lugnuts
7318160045	Other Lugnuts
7320100015	Leaf Springs
7320103000	Leaf Springs
7320106015	Leaf Springs
7320106060	Leaf Springs
7320201000	Helical Springs
8421394000	Catalytic Converters
8482101000	Ball Bearings
8482101040	Ball Bearings
8482101080	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200010	Tapered Roller Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200050	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8708315000	Mounted Brake Linings
8708395010	Brake Drums & Rotors
8708395020	Brake Drums
8708395030	Brake Rotors
8708395050	Brakes & Servo-Brakes
8708401000	Gear Boxes
8708402000	Gear Boxes
8708405000	Gear Boxes
8708503000	Drive Axles
8708505000	Drive Axles

Chassis and Drivetrain Parts

4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
6813100000	Brake Linings & Pads
6813900000	Other Friction Materials
7320100000	Leaf Springs
7320201000	Helical Springs
8421394000	Catalytic Converters
8482101000	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8708310000	Mounted Brake Linings
8708390000	Other Brakes
8708401000	Gear Boxes
8708402000	Gear Boxes
8708406000	Gear Boxes
8708500050	Drive Axles
8708600050	Non-Driving Axles
8708700050	Road Wheels & Pts.
8708805000	Suspension Shock Absorbers
8708925000	Radiators
8708935000	Clutches and Parts
8708945000	Steering Wheel, Column
8708990070	Wheel Hub Units
8708995800	Wheel Hub Units
8708996100	Airbags
8708998015	Wheel Hub Units

8708508000	Drive Axles
8708605000	Non-Driving Axles
8708608010	Spindles
8708608050	Non-Driving Axles
8708704530	Road Wheels
8708704545	Road Wheels
8708704560	Wheel Rims
8708706030	Wheel Covers
8708706045	Wheel Covers & Hubcaps
8708708010	Wheels
8708708015	Wheels
8708708025	Wheels
8708708030	Wheels
8708708035	Wheels
8708708045	Wheel Rims
8708708050	Parts & Access. for Wheels
8708708060	Wheel Covers & Hubcaps
8708708075	Parts & Access. for Wheels
8708803000	Suspension Shock Absorbers
8708804500	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708925000	Radiators
8708935000	Clutches & Parts
8708936000	Clutches
8708937500	Parts of Clutches
8708945000	Steering Wheels, Columns
8708995010	Steering Shaft Assemblies
8708995020	Wheel Hub Units
8718995025	Wheel Hub Units
8708995030	Beam Hanger Brackets
8708995800	Wheel Hub Units
8708996400	Half Shafts & Drive Shafts
8708996700	Parts (joints?)
8708996710	Universal Joints->01
8708996720	Universal Joints- >01
8708996790	Other Joints->01
8708997030	Beam Hanger Brackets
8708997060	Suspension System Parts
8708997330	Steering Shaft Assemblies
8708997360	Parts for Steering Systems
8708998015	Wheel Hub Units
8716905010	Axles & Parts for Trailers
8716905030	Wheels for Trailers

Electrical and Electric Components

8414308030	Compressors
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8415900040	Parts of Air Conditioners
8415908040	Parts of Air Conditioners
8415908045	Parts of Air Conditioners
8501324500	Electric Motors
8507100060	Storage Batteries
8507304000	Nickel-Cadmium Batteries
8507904000	Parts for Lead Acid Batteries
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors
8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511902000	Parts for Voltage Regulators
8511906020	Parts for Distributer Sets
8511906040	Other Parts Engine Ignition
8512202000	Lighting Equipment
8512202040	Lighting Equipment
8512204000	Signaling Equipment
8512204040	Signaling Equipment
8512300020	Horns
8512300030	Radar Dectectors
8512300040	Sound Signaling Equipment
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equipment
8512906000	Lighting Equipment Parts
8512907000	Parts of Defrosters
8512909000	Parts of Windshield Wipers
8519910020	Cassette Tape Players
8519911000	Cassette Tape Players
8519934000	Cassette Tape Players
8525201500	Radio Transceivers
8525206020	Radio Telephones
8525209020	Radio Telephones

Electrical and Electric Components

8414308030	Compressors
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8507100050?	Storage Batteries
8507100060	Storage Batteries
8507904000	Parts for Lead Acid Batteries
8507904050?	Parts for Batteries?
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors
8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511906020	Parts for Distributor Sets
8511908000	Other Elec Ignition Equip
8512202000	Lighting Equipment
8512204000	Signaling Equipment
8512300000	Sound Signaling Equip
8512300030	Radar Dectectors
8512300050	Sound Signaling Equip
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equip.
8512905000	Parts of Lighting Equip.
8512908000	Other Pts of Elec. Equip.
8525201000	CB Transmission Apparatus
8525206000	Other Transmission Apparatus
8525209020	Radio Telephones
8525209050?	Radio Telephones?
8527210000	Radiobroadcast Receivers
8527290000	Other Radiobroadcast Receiv
8531800038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100020	Beam Lamp Units
8539100040	Beam Lamp Units
8544300000	Ignition Wiring Sets
9029100000	Revolution Counters

8527211005	Radio-Tape Players (CDs)
8527211010	Radio-Tape Players
8527211015	Radio-Tape Players
8527211020	Radio-Tape Players
8527211030	Radio-Tape Players
8527214000	Radio-Combinations
8527214040	Radio-Combinations
8527214800	Radio-Combinations
8527290020	Radio-Receivers AM
8527290040	Radio-Receivers FM/AM
8527290060	Radio-Receivers
8527294000	Radio-Receivers FM/AM
8527298020	Radio-Receivers AM
8527298060	Radio-Receivers
8531800038	Radar Detectors
8531808038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100010	Beam Lamp Units
8539100020	Beam Lamps
8539100040	Beam Lamps
8539100050	Beam Lamp Units
8539212040	Halogen Lamps
8544300000	Ignition Wiring Sets
8708291000	Inflators & Modules Airbags
9029104000	Taximeters
9029108000	Revolution Counters, Odom.
9029204080	Other Speedometers, Tach.
9029902000	Parts & Access of Taximeters
9029908040	Parts & Access of Speed/Tac
9029908080	Parts & Access of Odometers
9104002510	MVT & Cases Panel Clock
9104004000	Instrument Panel Clocks
9104004510	Movements of Inst. Clock

9029205000	Other Speedometers/Tacho
9029900000	Pts & Access of Rev Counter
9104000000	Inst Panel Clocks

Engines and Parts

4010101020	Belts
4016931010	O-Rings
4016931020	Oil Seals
4016931050	Gaskets
4016931090	Gaskets
8407341400	Engines
8407341540	Engines
8407341580	Engines

Engines and Parts

8407342000	SP-IG Piston Engine
8407342030	SP-IG Engine
8407342090	Other Engine
8408202000	Compression Ignition Engine
8409914000	Pts for Engines
8409994000	Other Pts for Engines
8413301000	Fuel Injection Pumps
8413309000	Fuel, Lub., Cooling Pumps

8407341800	Engines
8407342040	Engines
8407342080	Engines
8407344400	Engines
8407344540	Engines
8407344580	Engines
8407344800	Engines
8408202000	Compression Ignition Engine
8409911040	Cast Iron Parts
8409913000	Aluminum Cylinder Heads
8409915010	Connecting Rods
8409915080	Parts
8409919110	Connecting Rods
8409919190	Parts
8409919910	Connecting Rods
8409991040	Cast-Iron parts
8409999110	Connecting Rods
8409999190	Parts
8413301000	Fuel Injection Pumps
8413309000	Fuel, Lub., or Cooling Pumps
8413309030	Fuel Pumps
8413309060	Lubricating Pumps
8413309090	Cooling Medium Pumps
8413911000	Parts of Fuel Injection Pumps
8414593000	Turbochargers
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters
8483101030	Camshafts and Crankshafts
8483103010	Camshafts and Crankshafts
9802004020	Combust. Engine Repair
9802005030	Value of Repairs on Engines

Miscellaneous Parts

3819000000	Brake Fluid
3819000010	Brake Fluid
3819000090	Other Liquids
3820000000	Anti-Freeze
4016993000	Vibration Control
4016995010	Mechanical Articles
4016995500	Vibration Control
4016996010	Mechanical Articles
8301200030	Steering Wheel Immobilizers
8425490000	Jacks
8426910000	Lifting Machinery

8413911000	Parts of Fuel Injection Pumps
8414308030	Compressor/Air Conditioners
8414593000	Turbochargers
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters
8483101020	Transmission Shafts
8483103010	Camshafts & Crankshafts

Miscellaneous Parts

3819000000	Brake Fluid
3820000000	Anti-Freeze
4016995010	Mechanical Articles
8425490000	Jacks
8426910000	Lifting Machinery
8431100090	Parts of Winches, Jacks
8708915000	Radiators
8708990050	Pts & Access
8708990090	Other Pts & Access
8708990095	Pts & Access
8708998075	Other Pts & Access

8431100090	Parts of Winches, Jacks
8708706060	Parts & Access. for Wheels
8708915000	Radiators
8708993000	Cast Iron Parts
8708995005	Brake Hoses
8708995060	Radiator Cores
8708995070	Cable Traction Devices
8708995080	Parts
8708995085	Parts
8708995090	Parts
8708995200	Cast Iron Parts
8708995500	Vibration Control Goods
8708998005	Brake Hoses of Plastics
8708998045	Radiator Cores
8708998060	Cable Traction Devices
8708998080	Parts
8716905050	Parts for Trailers
8716905060	Parts for Trailers

8716900000	Parts of Trailers
8716905000	Parts

Automotive Tires and Tubes

4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011101010	Radial Tires->01
4011101020	Radial Tires->01
4011101030	Radial Tires->01
4011101040	Radial Tires->01
4011101050	Radial Tires->01
4011101060	Radial Tires->01
4011101070	Radial Tires->01
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex. Radial for Lt. Truc

Automotive Tires and Tubes

4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex Radial, for Lt. Truc
4011205020	Pneumatic Tires for Buses
4011205030	Tires, ex Radial for Bus/Tr
4011205050	Pneumatic Tire for Bus/Tr
4012105020	Retreaded Tires Bus/Truck
4012106000	Other Retreaded Tires
4012110000	Retreaded Tires
4012120000	Retreaded Tires

4011205020	Pneumatic Tires for Buses	4012190000	Retread Tires
4011205030	Tires, ex. Radial, for Bus	4012200000	Used Pneumatic Tires
4011205050	Pneumatic Tires for Bus	4013100010	Inner Tubes
4012104005	Retreaded Tires for M.V.	4013100020	Inner Tubes
4012104015	Retreaded Tires for Light on	4013900000	Other Inner Tubes
4012104025	Retreaded Tires for Bus/Truc		
4012104035	Retreaded Tires for Bus/Truc		
4012105005	Retreaded Radial Tires M.V.		
4012105009	Retreaded Tires for M.V.		
4012105015	Retreaded Radial Tires Bus		
4012105019	Retreaded Tires for Lt. Truck		
4012105025	Retreaded Radial Tires Bus		
4012105029	Retreaded Tires for Bus/Truc		
4012105035	Retreaded Radial Tires Bus		
4012105050	Retreaded Tires for Bus/Truc		
4012108009	Retreaded Tires for M.V.		
4012108019	Retreaded Tires for Lt. Truck		
4012108029	Retreaded Tires for Bus/Truc		
4012108050	Retreaded Tires for Bus, ex.		
4012114000	Retreaded Tires for Cars		
4012118000	Retreaded Tires for Cars		
4012124015	Retreaded Tires for Lt. Truck		
4012124025	Retreaded Tires for Bus/Truc		
4012124035	Retreaded Tires for Bus/Truc		
4012128019	Retread Tire for Lt. Truck		
4012128029	Retread Tire for Bus/Truck		
4012128050	Retread Tire for Bus		
4012194000	Retreaded Tires for Bus, ex.		
4012198000	Retread Tire for Bus		
4012205000	Used Pneumatic Tires		
4012206000	Used Pneumatic Tires		
4013100010	Inner Tubes		
4013100020	Inner Tubes		



HTS Codes Numerically Ordered

HTS Codes for Import	
3819000000	Brake Fluid
3819000010	Brake Fluid
3819000090	Other Liquids
3820000000	Anti-Freeze
4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
4010101020	Belts
4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011101010	Radial Tires->01
4011101020	Radial Tires->01
4011101030	Radial Tires->01
4011101040	Radial Tires->01
4011101050	Radial Tires->01
4011101060	Radial Tires->01
4011101070	Radial Tires->01
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex. Radial for Lt. Truc
4011205020	Pneumatic Tires for Buses
4011205030	Tires, ex. Radial, for Bus
4011205050	Pneumatic Tires for Bus
4012104005	Retreaded Tires for M.V.
4012104015	Retreaded Tires for Light on

Schedule B Codes for Export	
3819000000	Brake Fluid
3820000000	Anti-Freeze
4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex Radial, for Lt. Truc
4011205020	Pneumatic Tires for Buses
4011205030	Tires, ex Radial for Bus/Tr
4011205050	Pneumatic Tire for Bus/Tr
4012105020	Retreaded Tires Bus/Trucks
4012106000	Other Retreaded Tires
4012110000	Retreaded Tires
4012120000	Retreaded Tires
4012190000	Retread Tires
4012200000	Used Pneumatic Tires
4013100010	Inner Tubes
4013100020	Inner Tubes
4013900000	Other Inner Tubes
4016995010	Mechanical Articles
6813100000	Brake Linings & Pads
6813900000	Other Friction Materials

4012104025	Retreaded Tires for Bus/Truc	7007110000	Safety Glass
4012104035	Retreaded Tires for Bus/Truc	7007211000	Windshields
4012105005	Retreaded Radial Tires M.V.	7007215000	Safety Glass
4012105009	Retreaded Tires for M.V.	7009100000	Rear- View Mirrors
4012105015	Retreaded Radial Tires Bus	7320100000	Leaf Springs
4012105019	Retreaded Tires for Lt. Truck	7320201000	Helical Springs
4012105025	Retreaded Radial Tires Bus	8301200000	Locks
4012105029	Retreaded Tires for Bus/Truc	8302103000	Hinges
4012105035	Retreaded Radial Tires Bus	8302300000	Other Mountings
4012105050	Retreaded Tires for Bus/Truc	8407342000	Spark Ig Piston Engines
4012108009	Retreaded Tires for M.V.	8407342030	Spark Ig Engine
4012108019	Retreaded Tires for Lt. Truck	8407342090	Other Engine
4012108029	Retreaded Tires for Bus/Truc	8408202000	Compression Ignition Engine
4012108050	Retreaded Tires for Bus, ex.	8409914000	Pts for Engines
4012114000	Retreaded Tires for Cars	8409994000	Other Pts for Engines
4012118000	Retreaded Tires for Cars	8413301000	Fuel Injection Pumps
4012124015	Retreaded Tires for Lt. Truck	8413309000	Fuel, Lub., Cooling Pumps
4012124025	Retreaded Tires for Bus/Truc	8413911000	Parts of Fuel Injection Pumps
4012124035	Retreaded Tires for Bus/Truc	8414308030	Compressors/Air Condition
4012128019	Retread Tire for Lt. Truck	8414593000	Turbochargers
4012128029	Retread Tire for Bus/Truck	8414596040	Fans
4012128050	Retread Tire for Bus	8414598040	Fans & Blowers
4012194000	Retreaded Tires for Bus, ex.	8415200000	Air Conditioners
4012198000	Retread Tire for Bus	8415830040	Air Conditioners
4012205000	Used Pneumatic Tires	8421230000	Oil or Fuel Filters
4012206000	Used Pneumatic Tires	8421310000	Intake Air Filters
4013100010	Inner Tubes	8421394000	Catalytic Converters
4013100020	Inner Tubes	8425490000	Jacks
4016931010	O-Rings	8426910000	Lifting Machinery
4016931020	Oil Seals	8431100090	Parts of Winches, Jacks
4016931050	Gaskets	8482101000	Ball Bearings
4016931090	Gaskets	8482105044	Radial Bearings
4016993000	Vibration Control	8482105048	Radial Bearings
4016995010	Mechanical Articles	8482200020	Tapered Roller Bearings
4016995500	Vibration Control	8482200030	Tapered Roller Bearings
4016996010	Mechanical Articles	8482200040	Tapered Roller Bearings
6813100050	Brake Linings & Pads	8482200060	Tapered Roller Bearings
6813900050	Friction Materials	8482200070	Tapered Roller Bearings
7007110000	Safety Glass	8482200080	Tapered Roller Bearings
7007110010	Safety Glass	8482400000	Needle Roller Bearings
7007211000	Windshields	8482500000	Other Cylindrical Bearings
7007211010	Windshields	8483101020	Transmission Shafts
7007215000	Safety Glass	8483103010	Camshafts & Crankshafts
7009100000	Rear-View Mirrors	8507100050	Storage Batteries
7318160010	Lugnuts	8507100060	Storage Batteries

7318160015	Lugnuts	8507904000	Parts for Lead Acid Batteries
7318160030	Lugnuts	8507904050	Parts for Batteries
7318160045	Other Lugnuts	8511100000	Spark Plugs
7320100015	Leaf Springs	8511200000	Magnetos, Dynamos
7320103000	Leaf Springs	8511300040	Distributors
7320106015	Leaf Springs	8511300080	Ignition Coils
7320106060	Leaf Springs	8511400000	Starter Motors
7320201000	Helical Springs	8511500000	Generators
8301200000	Locks	8511802000	Voltage Regulators
8301200030	Steering Wheel Immobilizers	8511806000	Other Engine Ignition Equip.
8301200060	Other Locks	8511906020	Parts for Distributor Sets
8302103000	Hinges	8511908000	Other Elec Ignition Equip
8302303000	Other Mountings	8512202000	Lighting Equipment
8302303010	Pneumatic Cylinders	8512204000	Signaling Equipment
8302303060	Other Mountings	8512300000	Sound Signaling Equipment
8302306000	Other Mountings	8512300030	Radar Detectors
8407341400	Engines	8512300050	Sound Signaling Equipment
8407341540	Engines	8512402000	Defrosters
8407341580	Engines	8512404000	Windshield Wipers
8407341800	Engines	8512902000	Parts of Signaling Equip.
8407342040	Engines	8512905000	Parts of Lighting Equipment
8407342080	Engines	8512908000	Other Pts of Elec Equipment
8407344400	Engines	8525201000	CB Transmission Apparatus
8407344540	Engines	8525206000	Other Transmission Apparatus
8407344580	Engines	8525209020	Radio Telephones
8407344800	Engines	8525209050	Radio Telephones
8408202000	Compression Ignition Engine	8527210000	Radiobroadcast Receivers
8409911040	Cast Iron Parts	8527290000	Other Radiobroadcast Receiv
8409913000	Aluminum Cylinder Heads	8531800038	Radar Detectors
8409915010	Connecting Rods	8531809038	Radar Detectors
8409915080	Parts	8536410005	Signaling Flashers
8409919110	Connecting Rods	8539100020	Beam Lamp Units
8409919190	Parts	8539100040	Beam Lamp Units
8409919910	Connecting Rods	8544300000	Ignition Wiring Sets
8409991040	Cast-Iron parts	8707100020	Bodies
8409999110	Connecting Rods	8707100040	Bodies
8409999190	Parts	8707905020	Bodies
8413301000	Fuel Injection Pumps	8707905040	Bodies
8413309000	Fuel, Lub., or Cooling Pumps	8707905060	Bodies
8413309030	Fuel Pumps	8707905080	Bodies
8413309060	Lubricating Pumps	8708100010	Stampings of Bumpers
8413309090	Cooling Medium Pumps	8708100050	Bumpers and Parts
8413911000	Parts of Fuel Injection Pumps	8708210000	Seat Belts
8414308030	Compressors	8708290010	Stampings of Bodies
8414593000	Turbochargers	8708290025	Truck Caps

8414596040	Fans	8708290050	Parts & Access. of Bodies
8414598040	Fans & Blowers	8708290060	Parts & Access. of Bodies
8415200000	Air Conditioners	8708295025	Truck Caps
8415830040	Air Conditioners	8708295070	Other Pts & Access of Bodies
8415900040	Parts of Air Conditioners	8708310000	Mounted Brake Linings
8415908040	Parts of Air Conditioners	8708390000	Other Brakes
8415908045	Parts of Air Conditioners	8708401000	Gear Boxes
8421230000	Oil or Fuel Filters	8708402000	Gear Boxes
8421310000	Intake Air Filters	8708406000	Gear Boxes
8421394000	Catalytic Converters	8708500050	Drive Axles
8425490000	Jacks	8708600050	Non-Driving Axles
8426910000	Lifting Machinery	8708700050	Road Wheels & Pts.
8431100090	Parts of Winches, Jacks	8708805000	Suspension Shock Absorbers
8482101000	Ball Bearings	8708915000	Radiators
8482101040	Ball Bearings	8708925000	Radiators
8482101080	Ball Bearings	8708935000	Clutches and Parts
8482105044	Radial Bearings	8708945000	Steering Wheel, Column
8482105048	Radial Bearings	8708990045	Slide-in Campers
8482200010	Tapered Roller Bearings	8708990050	Pts & Access.
8482200020	Tapered Roller Bearings	8708990070	Wheel Hub Units
8482200030	Tapered Roller Bearings	8708990090	Other Pts & Access
8482200040	Tapered Roller Bearings	8708990095	Pts & Access
8482200050	Tapered Roller Bearings	8708995800	Wheel Hub Units
8482200060	Tapered Roller Bearings	8708996100	Airbags
8482200070	Tapered Roller Bearings	8708998015	Wheel Hub Units
8482200080	Tapered Roller Bearings	8708998030	Slide-In Campers
8482400000	Needle Roller Bearings	8708998075	Other Pts & Access
8482500000	Other Cylindrical Bearings	8716900000	Parts of Trailers
8483101030	Camshafts and Crankshafts	8716905000	Parts
8483103010	Camshafts and Crankshafts	9029100000	Revolution Counters
8501324500	Electric Motors	9029205000	Other Speedometers/Tacho
8507100060	Storage Batteries	9029900000	Pts & Access of Rev Counter
8507304000	Nickel-Cadmium Batteries	9104000000	Inst Panel Clocks
8507904000	Parts for Lead Acid Batteries	9401200000	Seats
8511100000	Spark Plugs	9401901000	Seat Parts
8511200000	Magnetos, Dynamos	9401901010	Seat Parts of Leather
8511300040	Distributors	9401901080	Seat Parts
8511300080	Ignition Coils	9403901000	Parts of Furnitures
8511400000	Starter Motors		
8511500000	Generators		
8511802000	Voltage Regulators		
8511806000	Other Engine Ignition Equip.		
8511902000	Parts for Voltage Regulators		
8511906020	Parts for Distributer Sets		
8511906040	Other Parts Engine Ignition		

8512202000	Lighting Equipment
8512202040	Lighting Equipment
8512204000	Signaling Equipment
8512204040	Signaling Equipment
8512300020	Horns
8512300030	Radar Dectector
8512300040	Sound Signaling Equipment
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equipment
8512906000	Lighting Equipment Parts
8512907000	Parts of Defrosters
8512909000	Parts of Windshield Wipers
8519910020	Cassette Tape Players
8519911000	Cassette Tape Players
8519934000	Cassette Tape Players
8525201500	Radio Transceivers
8525206020	Radio Telephones
8525209020	Radio Telephones
8527211005	Radio-Tape Players (CDs)
8527211010	Radio-Tape Players
8527211015	Radio-Tape Players
8527211020	Radio-Tape Players
8527211030	Radio-Tape Players
8527214000	Radio-Combinations
8527214040	Radio-Combinations
8527214800	Radio-Combinations
8527290020	Radio-Receivers AM
8527290040	Radio-Receivers FM/AM
8527290060	Radio-Receivers
8527294000	Radio-Receivers FM/AM
8527298020	Radio-Receivers AM
8527298060	Radio-Receivers
8531800038	Radar Detectors
8531808038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100010	Beam Lamp Units
8539100020	Beam Lamp
8539100040	Beam Lamp
8539100050	Beam Lamp Units
8539212040	Halogen Lamps
8544300000	Ignition Wiring Sets
8707100020	Bodies
8707100040	Bodies

8707905020	Bodies
8707905040	Bodies
8707905060	Bodies
8707905080	Bodies
8708100010	Stampings of Bumpers
8708100050	Bumpers and Parts
8708103010	Stampings of Bumpers
8708103050	Bumpers
8708106010	Stampings Parts of Bumpers
8708106050	Parts of Bumpers
8708210000	Seat Belts
8708290010	Stampings of Bodies
8708290025	Truck Caps
8708290050	Parts & Access. of Bodies
8708290060	Parts & Access. of Bodies
8708291000	Inflators & Modules Airbags
8708291500	Door Assemblies
8708292000	Body Stampings
8708295010	Stampings
8708295025	Truck Caps
8708295060	Other Parts
8708315000	Mounted Brake Linings
8708395010	Brake Drums & Rotors
8708395020	Brake Drums
8708395030	Brake Rotors
8708395050	Brakes & Servo-Brakes
8708401000	Gear Boxes
8708402000	Gear Boxes
8708405000	Gear Boxes
8708503000	Drive Axles
8708505000	Drive Axles
8708508000	Drive Axles
8708605000	Non-Driving Axles
8708608010	Spindles
8708608050	Non-Driving Axles
8708704530	Road Wheels
8708704545	Road Wheels
8708704560	Wheel Rims
8708706030	Wheel Covers
8708706045	Wheel Covers & Hubcaps
8708706060	Parts & Access. for Wheels
8708708010	Wheels
8708708015	Wheels
8708708025	Wheels
8708708030	Wheels

8708708035	Wheels
8708708045	Wheel Rims
8708708050	Parts & Access. for Wheels
8708708060	Wheel Covers & Hubcaps
8708708075	Parts & Access. for Wheels
8708803000	Suspension Shock Absorbers
8708804500	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708915000	Radiators
8708925000	Radiators
8708935000	Clutches & Parts
8708936000	Clutches
8708937500	Parts of Clutches
8708945000	Steering Wheels, Columns
8708993000	Cast Iron Parts
8708995005	Brake Hoses
8708995010	Steering Shaft Assemblies
8708995020	Wheel Hub Units
8708995030	Beam Hanger Brackets
8708995045	Slide in Campers
8708995060	Radiator Cores
8708995070	Cable Traction Devices
8708995080	Parts
8708995085	Parts
8708995090	Parts
8708995200	Cast Iron Parts
8708995500	Vibration Control Goods
8708995800	Wheel Hub Units
8708996100	Airbags
8708996400	Half Shafts & Drive Shafts
8708996700	Parts (joints?)
8708996710	Universal Joints->01
8708996720	Universal Joints- >01
8708996790	Other Joints->01
8708997030	Beam Hanger Brackets
8708997060	Suspension System Parts
8708997330	Steering Shaft Assemblies
8708997360	Parts for Steering Systems
8708998005	Brake Hoses of Plastics
8708998015	Wheel Hub Units
8708998045	Radiator Cores
8708998060	Cable Traction Devices
8708998080	Parts
8716905010	Axles & Parts for Trailers
8716905030	Wheels for Trailers

8716905050	Parts for Trailers
8716905060	Parts for Trailers
8718995025	Wheel Hub Units
9029104000	Taximeters
9029108000	Revolution Counters, Odom.
9029204080	Other Speedometers, Tach.
9029902000	Parts & Access of Taximeters
9029908040	Parts & Access of Speed/Tac
9029908080	Parts & Access of Odometers
9104002510	MVT & Cases Panel Clock
9104004000	Instrument Panel Clocks
9104004510	Movements of Inst. Clock
9401200000	Seats
9401200010	Child Safety Seats
9401200090	Seats
9401901000	Seat Parts
9401901010	Seat Parts of Leather
9401901020	Seat Parts of Textile
9401901080	Seat Parts
9401901085	Seat Parts
9403406000	Wooden Furniture for M.V.
9403506000	Wooden Furniture for M.V.
9403901000?	Furniture
9403901040	Parts of Furniture for M.V.
9403901050	Parts of Furniture for M.V.
9403901080	Parts of Furniture for M.V.
9403901085	Parts of Furniture for M.V.
9802004020	Combust. Engine Repair
9802005030	Value of Repairs on Engines

North American Industry Classification System (NAICS)

335911	Storage Battery Mfg
336211	Motor Vehicle Body Mfg
336311	Carburetor, Piston, Piston Ring, & Valve Mfg
336312	Gasoline Engine & Engine Parts Mfg
336321	Vehicular Lighting Equipment Mfg
336322	Other Motor Vehicle Electrical & Electronic Equipment Mfg
336330	Motor Vehicle Steering & Suspension Component
336340	Motor Vehicle Brake System Mfg
336350	Motor Vehicle Transmission & Power Train Parts Mfg
336360	Motor Vehicle Seating & Interior Trim Mfg
336370	Motor Vehicle Metal Stamping
336391	Motor Vehicle Air-Conditioning Mfg
336399	All Other Motor Vehicle Parts Mfg

Description of NAICS codes by HTS codes**335911 Storage Battery Mfg****HTS Codes**

8507100030	Lead Acid Batteries
8507100060	Lead Acid Batteries
8507100090	Lead Acid Batteries
8507204000	Lead Acid Batteries
8507208030	Lead Acid Batteries
8507208040	Lead Acid Batteries
8507208060	Lead Acid Batteries
8507208090	Lead Acid Batteries
8507304000	Nickel-Cad Batteries
8507308010	Nickel-Cad Batteries
8507308090	Nickel-Cad Batteries
8507404000	Nickel-Iron Batteries
8507408000	Nickel-Iron Batteries
8507804000	Other Batteries
8507808000	Other Batteries
8507904000	Parts for Batteries
8507908000	Parts for Batteries

Schedule B

8507100030	Lead-Acid Batteries
8507100060	Lead-Acid Batteries
8507100090	Lead-Acid Batteries
8507200030	Lead Acid Batteries
8507200040	Lead Acid Batteries
8507200060	Lead Acid Batteries
8507200090	Lead Acid Batteries
8507300000	Nickel-Cad Batteries
8507400000	Nickel-Iron Batteries
8507800000	Other Storage Batter
8507904000	Parts Lead Acid Batt
8507908000	Parts Storage Batter

336211 Motor Vehicle Bodies**HTS Codes**

8707100020	Bodies Pass. Autos
8707905020	Bodies for Vehicles
8707905040	Bodies for Vehicles
8707905060	Bodies for Vehicles
8707905080	Bodies for Vehicles

Schedule B

8707100020	Bodies Pass. Autos
8707905020	Bodies Vehicles
8707905040	Bodies Vehicles
8707905060	Bodies Vehicles
8707905080	Bodies Vehicles

336311 Carburetor, Piston, Piston Ring, & Valve Mfg**336312 Motor Vehicle Gasoline Engines & Engine Parts****HTS Codes**

8407322040	SPK-IGN Eng Used
8407322080	SPK-IGN Eng New
8407336040	SPK-IGN Eng Used
8407336080	SPK-IGN Eng New
8407341400	SPK-IGN Eng Used
8407341800	SPK-IGN Eng New
8407344400	SPK-IGN Eng Used
8407344800	SPK-IGN Eng New
8409911040	Cast Iron Parts
8409913000	Alum. Cylinder Head
8409915010	Conn Rods
8409915080	Parts for SP-IG Eng
8413309030	Fuel Pumps
8413309060	Lub Pumps for Eng
8413309090	Cooling Med Pumps
8413919010	Parts, Fuel, Lub, Med
8414596040	Fans
8483101030	Cam/Crankshaft
8483506000	Flywheels

Schedule B

8407322000	Spark Ign Eng
8407332000	Spark Ign Eng
8407342030	Spark Ign Eng
8407342090	Spark Ign eng
8409914000	Parts Spark Ign Eng
8413309000	Fuel, Lub, Cool Pump
8413919010	Parts Fuel, L, C Pump
8414596040	Fans & Blowers
8483101020	Cam/Crankshaft

336321 Vehicular Lighting Equipment**HTS Codes**

8512102000	Bike Lighting Equip
8512104000	Bike Visual Signaling
8512202040	Lighting Equip
8512202080	Lightg Equip for Veh.
8512204040	Vis Sig Equip
8512204080	Vis Sig Equip for Veh
8512902000	Parts of Veh Sig Eq
8512904000	Parts of Lightg Bikes
8512906000	Veh Lightg Equip Par
8536410005	Auto Sig Flashers

Schedule B

8512100000	Lgtg/Vis Sig Eq Bike
8512202000	Veh Lighting Equip
8512204000	Veh Vis Signaling Eq
8512902000	Parts Signaling Equip
8512905000	Parts Lgtg Equip
8536410005	Auto Sig Flashers

336322 Motor Vehicle Electrical & Electronic Equipment**HTS Codes**

8511100000	IC Eng Spark Plugs
8511200000	IC Eng Magnetos
8511300040	IC Eng Distributors
8511300080	IC Eng Ignit. Coils
8511400000	IC Eng Starter Motors
8511500000	IC Eng Generators
8511802000	IC Eng Voltage Reg
8511804000	IC Eng Voltage Reg
8511806000	Other IC Eng Equip
8511902000	Parts IC Eng Ignit
8511904000	Parts IC Eng Volt Reg
8511906020	Parts IC Eng Dstr Pts
8511906040	Other Parts for IC En
8512402000	Veh. Defrosters
8512404000	Veh. Windshield Wip
8512907000	Parts Veh. Defrosters
8512909000	Parts Windshield Wip
8544300000	Insulated Wiring Veh
9032892000	Auto Volt Regulators
9032902000	Pts, Volt Regulators

Schedule B

8511100000	IC Eng Spark Plugs
8511200000	IC Eng Magnetos
8511300040	IC Eng Distributors
8511300080	IC Eng Ignition Coils
8511400000	IC Eng Starter Motors
8511500000	IC Eng Generators
8511802000	IC Eng Voltage Reg
8511804000	IC Eng Voltage Reg
8511806000	Other IC Eng Ign Eq
8511906020	Parts IC Eng Dstbr Pt
8511908000	Parts Electrical App
8512402000	Veh Defrosters
8512404000	Veh Windshield Wipe
8512908000	Pts Windshield Wiper
8544300000	Insulated Wiring Sets
9032893000	Voltage Regulators

336330 Motor Vehicle Steering & Suspension Components

HTS Codes

Schedule B

8708803000	Suspension Shock Ab	8708805000	Sus Shock Absorbers
8708804500	Suspension Shock Ab	8708945000	Steering Wheel Sys
8708945000	Steering Wh Systems		
8708997030	Beam Hanger Brack		
8708997060	Other Pt Susp System		
8708997330	Steering Shaft Assem		
8708997360	Parts NESOI		

336340 Motor Vehicle Brake System

HTS Codes

Schedule B

4009500020	Rubber Brake Hoses	4009500020	Brake Hoses
6813100010	Brk Lngs & Pads	6813100000	Brk Lngs, Asbestos
6813100050	Brk Lngs & Pads Asb	6813900000	Other Frict Materials
6813900010	Asbstos BSD Friction	8708310000	Mounted Brk Lngs
6813900050	Asbstos Friction Mat	8708390000	Brks & Servo-Brks
8708315000	Mounted Brk Lngs		
8708395010	Brk Drums		
8708395050	Brks NESOI		
8708998005	Brk Hoses		

336350 Motor Vehicle Transmission & Power Train Parts

HTS Codes

Schedule B

8708401000	Gear Boxes	8708401000	Gear Boxes, Parts
8708402000	Gear Boxes	8708402000	Gear Boxes & Parts
8708405000	Gear Boxes	8708406000	Gear Boxes for Veh
8708505000	Drive Axles	8708500050	Drive Axles
8708508000	Drive Axles	8708600050	Non-Driving Axles
8708605000	Non-Driving Axles	8708935000	Clutches & Parts
8708608010	Spindles	8708995800	Wheel Hub Units
8708608050	Non-Drive Axles	8708998015	Wheel Hub Units
8708936000	Clutches		
8708937500	Parts of Clutches		
8708995800	Wheel Hub Units		
8708996400	Parts of Motor Veh		
8708996700	Parts of Motor Veh		
8708998015	Wheel Hub Units		

336360 Motor Vehicle Seating & Interior Trim

HTS Codes

8708210000	Safety Seat Belts & Pt
9401104000	Seats Aircraft
9401108000	Seats Aircraft
9401200010	Child Safety Seats
9401200090	Seats
9401901080	Seat Parts

Schedule B

8708210000	Safety Seat Belts & Pt
9401100000	Seats Aircraft
9401200000	Seats Motor Veh
9401901080	Seat Parts Motor Veh

336370 Motor Vehicle Metal Stampings

HTS Codes

8708103010	Stampings Bumpers
8708106010	Stampings for Parts
8708292000	Body Stampings
8708295010	Stampings of Other

Schedule B

8708100010	Stampings of Bumper
8708290010	Stampings of Bodies

336391 Motor Vehicle Air Conditioning

HTS Codes

8414308030	Compressors
8415200000	Auto Air Conditioners
8415908045	Parts of Auto Air Con

Schedule B

8414308030	Compressors, Refri
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336399 Motor Vehicle Parts

HTS Codes

8421230000	Oil/Fuel Filters
8421310000	Intake Air Filters
8421394000	Catalytic Converters
8483509040	Grooved Pulleys
8483509080	Pulley Blocks
8512300020	Motor Veh. Horns
8708103050	Bumpers
8708106050	Pts of Bumpers
8708291000	Inflators Airbags
8708291500	Door Assemblies

Schedule B

8421123000	Oil/Fuel Filters
8421310000	Intake Air Filters
8421394000	Catalytic Converters
8483508030	Grooved Pulleys
8708508080	Flywheels, Pulley Blk
8708100050	Bumpers & Parts
8708295070	Pts & Acc of Bodies
8708700050	Road Wheels & Pts
8708915000	Radiators
8708925000	Mufflers & Exhaust

8708295060	Other Pts & Access	8708996100	Airbags for Veh.
8708704530	Road Wheels	8708998075	Pts & Acc for Veh
8708704545	Road Wheels Alum	8716900000	Parts NESOI Trailers
8708704560	Road Wheels ex Alu		
8708706030	Wheel rims		
8708706045	Wheel Covers & Hub		
8708706060	Pts & Acc for Wheels		
8708915000	Radiators		
8708925000	Mufflers & Exhaust		
8708995200	Cast Iron Pts of Veh		
8708995500	Vib Ctrl Goods		
8708996100	Parts Airbags		
8708998045	Radiator Cores		
8708998060	Cable Traction Devic		
8708998080	Parts NESOI		
8716905010	Axles & Parts Trailer		
8716905030	Wheel Trailers		
8716905060	Parts NESO Trailers		

Standard Industry Classification Codes (SIC)

3465 Automotive Stampings
3592 Carburetors, Pistons, Piston Rings, and Valves
3647 Vehicular Lighting
3691 Storage Batteries
3694 Engine Electrical Equipment
3714 Other Motor Vehicle Parts

NAICS Codes include products from the following SIC codes

2396 Automotive & Apparel Trimmings
2399 Fabricated Textile Products
2531 Public Building & Related Furniture
3292 Asbestos Products
3465 Automotive Stampings
3519 Internal Combustion Engines, Not Elsewhere Classified
3585 Refrigeration & Heating Equipment
3592 Carburetors, Pistons, Rings, & Valves
3647 Vehicular Lighting Equipment
3679 Electronic Components, Not Elsewhere Classified
3691 Storage Batteries
3694 Engine Electrical Equipment
3711 Motor Vehicles and Car Bodies
3713 Truck & Bus Bodies
3714 Motor Vehicle Parts and Accessories

SITC

6251 Tires	66472 Glass
62510 Tires	66481 Glass
6252 Tires	69915 Mount Fittings
62520 Tires	713 Engines
6647 Glass	7132 Internal Combustion Engines
66471 Glass	71321 Internal Combustion Engines

71322	Engines	74291	Pumps
71323	Engines	74343	Fans
71391	Engines	74363	Oil Filters
7422	Pumps	74364	Intake Air Filters
7444	Jacks for Vehicles	78425	Bodies
74443	Jacks for Vehicles	7843	Parts
74449	Jacks for Vehicles	78431	Bumpers
748	Transmission	78432	Other
7481	Transmission	78433	Brakes
74810	Transmission	78434	Gear Boxes
7489	Parts, NES	78435	Drive Axles
74890	For Transmission	78436	Non-Driving Axles
76211	Radios	78439	Parts and Accessories
76212	Radios	78689	Parts of Trailers
77313	Electric Wires	82112	Seats
77812	Batteries	87321	Taximeters
77823	Lights	87325	Speedometers and Tachometers
77831	Electric lighting	87329	Parts of Revolution Counters
77833	Parts of Ignition	88571	Instrument Panels
77834	Signaling Devices		
77835	Parts of Signal Devices		
784	Parts of Vehicles		
7841	Chassis		
78410	Chassis		
7842	Bodies		
78421	Bodies		

HTS Six-digit level automotive parts codes used for United Nations data

381900	700711	841520	851190	870821	870899
382000	700721	842123	851220	870829	871690
401010	700910	842131	851230	870831	871899
401110	732010	842549	851240	870839	902920
401120	732020	842691	851290	870840	902990
401210	830120	848310	851991	870850	910400
401211	830230	850710	851993	870860	940120
401212	840734	851110	852721	870870	940190
401310	840820	851120	852729	870880	
401593	840990	851130	854430	870891	
401693	840991	851140	870710	870892	
681310	840999	851150	870790	870893	
681390	841330	851180	870810	870894	

Table 1

Statistics for All U.S. Manufacturing Establishments																
	1997	Chg*	1998	Chg*	1999	Chg*	2000	Chg*	2001	Chg*	2002	Chg*	2003	Chg*	2004	Chg*
All Employees	16,805,127		16,944,977	0.8%	16,685,639	-1.5%	16,651,904	-0.2%	15,845,612	-4.8%	14,715,371	-7.1%	13,875,542	-5.7%	13,404,292	-3.4%
Employee Payroll (\$1,000)	569,808,845		586,957,735	3.0%	601,472,998	2.5%	617,211,426	2.6%	591,558,514	-4.2%	576,494,937	-2.5%	565,026,110	-2.0%	569,413,966	0.8%
Production Workers	12,065,257		12,189,519	1.0%	11,977,196	-1.7%	11,943,646	-0.3%	11,212,063	-6.1%	10,352,516	-7.7%	9,794,517	-5.4%	9,357,120	-4.5%
Production Worker Hours (1,000)	24,183,271		24,582,584	1.7%	24,209,596	-1.5%	23,954,395	-1.1%	22,384,101	-6.6%	20,489,145	-8.5%	19,886,392	-2.9%	19,277,358	-3.1%
Production Worker Wages (\$1,000)	338,267,197		348,953,570	3.2%	355,790,664	2.0%	363,380,819	2.1%	342,268,242	-5.8%	337,118,875	-1.5%	329,715,154	-2.2%	331,881,342	0.7%
Value of Industry Shipments (\$1,000)**	3,834,700,920		3,899,809,755	1.7%	4,031,884,590	3.4%	4,208,582,047	4.4%	3,970,204,964	-5.7%	3,920,631,826	-1.2%	3,979,917,101	1.5%	4,265,784,041	7.2%

Source: *Annual Survey of Manufacturers, 2004*, released December 2005 by U.S. Department of Commerce, Bureau of the Census. * = From Previous Year

** = Industry Shipments are products shipped by industry establishments.

Table 2

Statistics for U.S. Motor Vehicle Parts Manufacturing, NAICS 336211 and 3363																
	1997	Chg*	1998	Chg*	1999	Chg*	2000	Chg*	2001	Chg*	2002	Chg*	2003	Chg*	2004	Chg*
All Employees	822,686		832,870	1.2%	842,344	1.1%	846,419	0.5%	777,774	-8.1%	771,421	-0.8%	710,856	-7.9%	683,097	-3.9%
Employee Payroll (\$1,000)	32,186,047		32,649,966	1.4%	35,980,174	10.2%	36,740,593	2.1%	32,825,802	-10.7%	33,640,557	2.5%	32,851,565	-2.3%	32,881,420	0.1%
Production Workers	662,455		669,341	1.0%	680,104	1.6%	676,449	-0.5%	615,547	-9.0%	612,903	-0.4%	555,668	-9.3%	535,189	-3.7%
Production Worker Hours (1,000)	1,371,296		1,386,337	1.1%	1,431,002	3.2%	1,389,253	-2.9%	1,228,624	-11.6%	1,211,579	-1.4%	1,163,653	-4.0%	1,107,923	-4.8%
Production Worker Wages (\$1,000)	23,997,423		24,086,605	0.4%	27,035,565	12.2%	27,221,020	0.7%	23,682,724	-13.0%	24,666,017	4.2%	23,749,475	-3.7%	23,857,885	0.5%
Value of Industry Shipments (\$1,000)**	181,507,106		187,458,951	3.3%	206,622,875	10.2%	208,179,966	0.8%	190,711,569	-8.4%	212,610,705	11.5%	209,055,569	-1.7%	212,451,753	1.6%
Value of Product Shipments (\$1,000)***	179,709,666		186,966,036	4.0%	205,669,893	10.0%	206,443,783	0.4%	188,487,002	-8.7%	204,265,639	8.4%	200,924,074	-1.6%	203,299,438	1.2%

Source: *Annual Survey of Manufacturers, 2004*, released December 2005 by U.S. Department of Commerce, Bureau of the Census. * = From Previous Year

** = Industry Shipments are products shipped by industry establishments. *** = Product Shipments are all products regardless of industry establishment.

Table 3

U.S. Exports of Automotive Parts (\$millions)																
	1997	%Chg	1998	%Chg	1999	%Chg	2000	%Chg	2001	%Chg	2002	%Chg	2003	%Chg	2004	%Chg
Parts Exports	41,119		46,807	13.8%	49,901	6.6%	53,720	7.7%	49,794	-7.3%	50,087	0.6%	48,501	-3.2%	52,628	8.5%
All Export Commodities	687,598		680,474	-1.0%	692,821	1.8%	780,419	12.6%	731,026	-6.3%	693,257	-5.2%	723,743	4.4%	816,548	12.8%
% Share	6.0%		6.9%	15.0%	7.2%	4.7%	6.9%	-4.4%	6.8%	-1.0%	7.2%	6.1%	6.7%	-7.2%	6.4%	-3.8%

Source: U.S. Census Bureau

Table 4

Total World Original Equipment Parts Market																
	1997	% Change	1998	% Change	1999	% Change	2000	% Change	2001	% Change	2002	% Change	2003	% Change	2004	% Change
OE Parts Market (\$millions)	635,822		657,467	3.4%	775,638	18.0%	759,315	-2.1%	711,808	-6.3%	729,656	2.5%	802,850	10.0%	842,960	5.0%
Total OE Parts per Vehicle (\$)	10,966		12,613	15.0%	14,053	11.4%	13,398	-4.7%	12,992	-3.0%	13,029	0.3%	13,637	4.7%	13,586	-0.4%

Source: OESA Industry Review 2005/2006

Table 5

U.S. Original Equipment Parts Market								
	1997	1998	1999	2000	2001	2002	2003	2004
Size of U.S OE Parts Market (\$US Billions)	147.7	162.9	190.0	178.1	164.8	167.2	162.1	159.6
U.S. Vehicle Production (Units)	12,130,575	12,002,663	13,024,978	12,773,714	11,424,689	12,279,582	12,087,028	11,955,852
Content per Vehicle (\$US)	12,176.0	13,571.0	14,590.0	13,940.0	14,423.0	13,617.0	13,413.0	13,346.0
OE Parts Sourced from U.S. Suppliers* (\$US Billions)	108.4	121.3	142.4	126.4	116.5	113.8	104.4	95.0
<i>% of Total OE Parts Market</i>	73.4%	74.5%	74.9%	71.0%	70.7%	68.1%	64.4%	59.5%
Imports of Parts (\$US Billions)	39.4	41.6	47.7	51.7	48.3	53.4	57.7	64.6
<i>% of Total OE Parts Market</i>	26.7%	25.5%	25.1%	29.0%	29.3%	31.9%	35.6%	40.5%
Imports from Canada	11.4	12.2	14.3	14.7	13.1	14.5	15.7	17.0
<i>% of Parts Imports</i>	28.9%	29.3%	30.0%	28.4%	27.1%	27.2%	27.2%	26.3%
<i>% of Total OE Parts Market</i>	7.7%	7.5%	7.5%	8.3%	7.9%	8.7%	9.7%	10.7%
Imports from Mexico	10.2	10.9	12.5	13.8	13.2	15.0	15.8	17.6
<i>% of Parts Imports</i>	25.9%	26.2%	26.2%	26.7%	27.3%	28.1%	27.4%	27.2%
<i>% of Total OE Parts Market</i>	6.9%	6.7%	6.6%	7.7%	8.0%	9.0%	9.7%	11.0%
Imports from Japan	10.9	9.6	10.3	12.0	11.1	11.2	11.4	13.0
<i>% of Parts Imports</i>	27.7%	23.1%	21.6%	23.2%	23.0%	21.0%	19.8%	20.1%
<i>% of Total OE Parts Market</i>	7.4%	5.9%	5.4%	6.7%	6.7%	6.7%	7.0%	8.1%
Imports from China	0.3	0.4	0.6	0.8	1.0	1.3	1.7	2.4
<i>% of Parts Imports</i>	0.8%	1.0%	1.3%	1.5%	2.1%	2.4%	2.9%	3.7%
<i>% of Total OE Parts Market</i>	0.2%	0.2%	0.3%	0.4%	0.6%	0.8%	1.0%	1.5%
Imports from all other countries	6.5	8.5	9.9	10.3	10.0	11.4	13.1	14.6
<i>% of Parts Imports</i>	16.5%	20.4%	20.8%	19.9%	20.7%	21.3%	22.7%	22.6%
<i>% of Total OE Parts Market</i>	4.4%	5.2%	5.2%	5.8%	6.1%	6.8%	8.1%	9.1%

*U.S. Suppliers include U.S. Affiliates of Foreign Manufacturers.

Source: DesRosiers and Automotive News

Table 6

Top 10 Global OEM Suppliers										
	2000	Global OEM Sales	2001	Global OEM Sales	2002	Global OEM Sales	2003	Global OEM Sales	2004	Global OEM Sales
	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)
1	Delphi Corp	26,480	Delphi Corp.	24,188	Delphi Corp.	25,527	Delphi Corp.	26,200	Robert Bosch GmbH	27,200
2	Visteon Corp	18,569	Robert Bosch GmbH	18,000	Robert Bosch GmbH	19,085	Robert Bosch GmbH	23,200	Delphi Corp.	24,104
3	Robert Bosch GmbH	17,800	Visteon Corp.	16,945	Visteon Corp.	16,900	Denso Corp.	16,856	Magna International Inc.	19,937
4	Denso Corp.	16,392	Denso Corp.	16,250	Denso Corp.	15,348	Visteon Corp.	16,513	Denson Corp.	19,927
5	Lear Corp.	14,073	Lear Corp.	13,625	Lear Corp.	14,400	Lear Corp.	15,747	Johnson Controls Inc.	19,500
6	Johnson Controls Inc.	12,738	Johnson Controls In.	13,620	Johnson Controls In.	13,653	Magna Int'l Inc.	15,345	Visteon Corp.	17,700
7	TRW Automotive	10,200	Magna Int'l Inc.	10,500	Magna Int'l Inc.	12,188	Johnson Controls Inc.	15,192	Lear Corp.	17,000
8	Magna Int'l Inc.	10,100	TRW Automotive	9,600	Aisin Seiki Co. Ltd.	10,716	Aisin Seiki Co. Ltd.	13,534	Aisin Seiki Co. Ltd	15,508
9	Dana Corp.	9,467	Faurecia	8,600	Faurecia	10,000	Faurecia	12,700	Faurecia	13,327
10	Valeo SA	6,959	Aisin Seiki Co. Ltd.	8,460	TRW Automotive	9,900	TRW Automotive	11,300	Siemens VDO Automotive	11,600
Top 10 Total		142,778		139,788		147,717		166,587		185,803
op 100 Tot		350,600		347,900		353,385		401,545		467,217

Source: Automotive News. *calculated estimate. **American Axle and Manufacturing Holdings Inc.

Table 7

Top 10 OE Suppliers for North America										
	2000	NA Sales	2001	NA Sales	2002	NA Sales	2003	NA Sales	2004	NA Sales
	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)	Company	(\$Millions)
1	Delphi Corp	21,449	Delphi Corp.	18,867	Delphi Corp	19,656	Delphi Corp	19,450	Delphi Corp	17,596
2	Visteon Corp	15,041	Visteon Corp	11,736	Visteon Corp.	12,168	Visteon Corp.	11,080	Visteon Corp.	11,328
3	Lear Corp.	8,601	Lear Corp	8,858	Lear Corp.	9,504	Lear Corp.	9,448	Magna Int'l Inc.	9,871
4	Johnson Controls Inc.	8,534	Johnson Controls Inc	7,353	Johnson Controls Inc.	7,687	Magna Int'l Inc.	8,736	Johnson Controls Inc.	9,500
5	Dana Corp.	7,100	Magna Intl Inc	7,140	Magna Int'l Inc.	7,650	Johnson Controls Inc.	8,021	Lear Corp.	9,282
6	Magna Intl Inc.	6,868	Dana Corp	5,250	Dana Corp.	5,340	Dana Corp.	5,543	Robert Bosch Corp.	6,256
7	Robert Bosch Corp.	5,874	TRW Automotive	4,992	TRW Automotive	4,950	Robert Bosch Corp.	5,336	Dana Corp.	5,977
8	TRW Automotive	5,202	Robert Bosch Corp.	4,120	Robert Bosch Corp.	4,390	TRW Automotive	4,633	Denso Int'l America Inc.	4,324
9	ArvinMeritor Inc.	4,154	Denso Intl America Inc.	3,689	Denso Int'l America Inc.	3,769	ThyssenKrupp***	4,401	TRW Automotive	4,235
10	Denso Intl America Inc.	3,803	ArvinMeritor Inc	2,045	American Axle & Manu.**	3,341	Denso Int'l America Inc.	3,894	ThyssenKrupp***	4,057
Top 10 Total		86,626		74,050		78,455		80,542		82,426
Top 150 Total		189,400		166,400		182,100		186,714		200,585

Source: Automotive News. *calculated estimate. **American Axle and Manufacturing Holdings Inc. ***ThyssenKrupp Automotive AG

Table 8

Employment in the U.S. Automotive Parts Industry, Thousands											
NAICS	Description	2001	% Change	2002	% Change	2003	% Change	2004	% Change	2005	% Change
336211	Motor Vehicle Bodies	75.8	-7.3%	68.3	-9.9%	61.9	-9.4%	64.5	4.2%	65.8	2.0%
3363	Motor Vehicle Parts	774.7	-7.7%	733.6	-5.3%	707.8	-3.5%	692.1	-2.2%	677.8	-2.1%
33631	MV Gasoline Engine and Parts	96.7	-7.2%	93.0	-3.8%	85.5	-8.1%	80.2	-6.2%	75.7	-5.6%
336311	Carburators, Pistons, Rings, and Valves	21.3	-8.2%	19.9	-6.6%	17.7	-11.1%	16.1	-9.0%	14.9	-7.5%
336312	Gasoline Engine and Engine Parts	75.5	-6.8%	73.1	-3.2%	67.8	-7.3%	64.1	-5.5%	60.8	-5.1%
33632	MV Electric Equipment	120.1	-10.1%	110.1	-8.3%	104.0	-5.5%	100.5	-3.4%	97.2	-3.3%
336321	Vehicular Lighting Equipment	17.8	-6.8%	17.2	-3.4%	17.2	0.0%	16.6	-3.5%	17.0	2.4%
336322	Other MV Electric Equipment	102.3	-10.7%	92.9	-9.2%	86.9	-6.5%	83.8	-3.6%	80.2	-4.3%
33633	MV Steering and Suspension Parts	51.5	-7.5%	47.4	-8.0%	44.6	-5.9%	43.4	-2.7%	43.3	-0.2%
33634	MV Brake Systems	46.6	-7.0%	45.3	-2.8%	45.9	1.3%	45.1	-1.7%	43.0	-4.7%
33635	MV Power Train Components	95.7	-8.2%	91.7	-4.2%	91.2	-0.5%	85.7	-6.0%	85.5	-0.2%
33636	MV Seating and Interior Trim	64.9	-5.8%	62.0	-4.5%	62.2	0.3%	66.1	6.3%	64.6	-2.3%
33637	MV Metal Stamping	111.6	-8.0%	105.5	-5.5%	101.9	-3.4%	99.0	-2.8%	97.1	-1.9%
33639	Other MV Parts	187.5	-6.9%	178.5	-4.8%	172.4	-3.4%	172.1	-0.2%	171.4	-0.4%
Total	336211+3363	850.5	-7.7%	801.9	-5.7%	769.7	-4.0%	756.6	-1.7%	743.6	-1.7%

Source: Bureau of Labor Statistics

Table 9

Employment in the U.S. Automotive Parts Industry																
NAICS	1997	% Change	1998	% Change	1999	% Change	2000	% Change	2001	% Change	2002	% Change	2003	% Change	2004	% Change
Bodies and Body Parts																
336211	42,773		43,306	1.2%	43,170	-0.3%	43,844	1.6%	41,771	-4.7%	41,266	-1.2%	40,710	-1.3%	39,052	-4.1%
336360	47,885		48,898	2.1%	55,455	13.4%	58,028	4.6%	52,670	-9.2%	53,779	2.1%	53,032	-1.4%	49,968	-5.8%
336370	126,668		123,214	-2.7%	118,695	-3.7%	117,012	-1.4%	112,488	-3.9%	126,040	12.0%	108,926	-13.6%	107,521	-1.3%
Total	217,326		215,418	-0.9%	217,320	0.9%	218,884	0.7%	206,929	-5.5%	221,085	6.8%	202,668	-8.3%	196,541	-3.0%
Chassis and Drivetrain Parts																
336330	48,676		47,682	-2.0%	48,747	2.2%	50,972	4.6%	47,015	-7.8%	41,783	-11.1%	39,696	-5.0%	3,856	-90.3%
336340	43,146		45,807	6.2%	44,638	-2.6%	44,331	-0.7%	38,736	-12.6%	42,356	9.3%	41,097	-3.0%	39,727	-3.3%
336350	100,605		102,538	1.9%	111,338	8.6%	112,244	0.8%	98,753	-12.0%	101,917	3.2%	91,087	-10.6%	89,183	-2.1%
Total	192,427		196,027	1.9%	204,723	4.4%	207,547	1.4%	184,504	-11.1%	186,056	0.8%	171,880	-7.6%	132,766	-22.8%
Electrical and Electronic Parts																
336321	16,624		15,660	-5.8%	17,233	10.0%	15,055	-12.6%	14,665	-2.6%						
336322	97,572		99,295	1.8%	100,345	1.1%	102,564	2.2%	94,812	-7.6%						
33632	114,196		114,955	0.7%	117,578	2.3%	117,619	0.0%	109,477	-6.9%	97,111	-11.3%	90,766	-6.5%	77,496	-14.6%
336391	21,522		21,310	-1.0%	21,477	0.8%	20,393	-5.0%	19,594	-3.9%	18,870	-3.7%	19,229	1.9%	19,423	1.0%
Total	135,718		136,265	0.4%	139,055	2.0%	138,012	-0.8%	129,071	-6.5%	115,981	-10.1%	109,995	-5.2%	96,919	-11.9%
Engines and Engine Parts																
336311	17,241		17,706	2.7%	17,341	-2.1%	17,748	2.3%	16,656	-6.2%						
336312	80,582		80,887	0.4%	80,209	-0.8%	78,600	-2.0%	71,979	-8.4%						
33631	97,823		98,593	0.8%	97,550	-1.1%	96,348	-1.2%	88,635	-8.0%	94,092	6.2%	87,729	-6.8%	81,082	-7.6%
Total	97,823		98,593	0.8%	97,550	-1.1%	96,348	-1.2%	88,635	-8.0%	94,092	6.2%	87,729	-6.8%	81,082	-7.6%
Miscellaneous Automotive Parts																
336399	179,392		186,567	4.0%	183,696	-1.5%	185,628	1.1%	168,635	-9.2%	145,521	-13.7%	140,255	-3.6%	140,789	0.4%
Total	179,392		186,567	4.0%	183,696	-1.5%	185,628	1.1%	168,635	-9.2%	145,521	-13.7%	140,255	-3.6%	140,789	0.4%
Total	822,686		832,870	1.2%	842,344	1.1%	846,419	0.5%	777,774	-8.1%	762,735	-1.9%	712,527	-6.6%	648,097	-9.0%

Source: U.S. Department of Commerce, *Annual Survey of Manufacturers 2004*.

Table 10

World Shipments of the 20 Largest Exporters of Automotive Parts (\$Thousands)

2000		2001		2002		2003	
Reporters	304,247,503	Reporters	290,030,040	Reporters*	250,458,921	Reporters	351,009,442
United		United		United		United	
1 States	60,932,233	1 States	56,055,888	1 States	56,901,556	1 States	58,267,447
2 Japan	38,049,553	2 Germany	38,631,380	2 Germany	N/A	2 Germany	56,499,527
3 Germany	37,307,026	3 Japan	33,771,352	3 Japan	36,251,190	3 Japan	41,185,555
4 France	23,080,070	4 France	21,430,753	4 France	22,713,109	4 France	28,084,760
5 Mexico	20,249,182	5 Mexico	20,413,237	5 Mexico	22,577,412	5 Mexico	23,253,999
6 Canada	19,579,414	6 Canada	17,827,508	6 Canada	19,161,268	6 Canada	20,871,562
United							
7 Kingdom	13,866,088	7 Italy	12,863,644	7 Italy	13,444,109	7 Italy	16,782,264
		United		United		United	
8 Italy	12,821,469	8 Kingdom	12,432,790	8 Kingdom	13,151,242	8 Kingdom	15,064,779
9 Spain	10,771,584	9 Spain	10,732,893	9 Austria	6,711,131	9 Belgium	9,518,666
				Czech		Czech	
10 Belgium	6,908,166	10 Belgium	6,828,588	10 Republic	6,078,884	10 Republic	8,119,096
11 Austria	5,926,345	11 Austria	6,090,296	11 Hungary	5,805,292	11 Austria	8,025,772
12 Korea	4,771,477	12 Korea	4,881,518	12 China	5,744,439	12 Hungary	7,717,828
13 Hungary	4,615,060	13 Sweden	4,836,375	13 Sweden	5,542,503	13 China	7,694,064
		Czech					
14 Sweden	4,546,519	14 Republic	4,702,496	14 Korea	5,506,682	14 Poland	7,507,685
15 Brazil	4,285,162	15 China	4,337,469	15 Poland	5,114,278	15 Sweden	6,840,043
16 China	3,859,718	16 Brazil	4,013,179	16 Netherlands	4,070,284	16 Brazil	5,264,662
Czech							
17 Republic	3,796,119	17 Poland	3,989,085	17 Portugal	3,032,415	17 Slovakia	3,649,836
18 Netherlands	3,293,460	18 Netherlands	3,284,975	18 Turkey	1,750,602	18 Thailand	3,198,565
19 Poland	3,134,302	19 Thailand	1,915,635	19 Slovakia	1,735,219	19 Hong Kong	2,798,696
20 Portugal	2,596,184	20 Turkey	1,477,795	20 Singapore	1,615,820	20 Turkey	2,285,585

Source: United Nations data, using OAAI product groups. Total FOB Exports, Thousands of Dollars. Ranked Annually of all countries reporting in each year.

*Germany, Brazil, Spain, and Belgium did not report in 2002.

U.S. AUTOMOTIVE PARTS EXPORTS, 1999 - 2005

In millions of dollars

Table 11

Region/Country	1999	2000	2001	2002	2003	2004	2005	% Chg
WORLD	49,901	53,720	49,794	50,087	48,501	52,628	55,054	4.6%
ASIA and the PACIFIC								
Select ASEAN								
Indonesia	27	34	21	22	23	34	33	-2.2%
Malaysia	58	35	26	29	27	20	21	7.8%
Philippines	55	53	29	59	88	71	110	54.8%
Singapore	150	135	143	141	142	149	157	5.4%
Thailand	127	143	85	86	96	96	97	0.3%
Total ASEAN (1)	419	402	309	343	385	381	433	13.6%
Chinese Economic Area								
China	251	225	258	344	510	636	623	-2.0%
Hong Kong	114	91	82	75	75	88	82	-7.3%
Taiwan	84	79	75	77	133	111	96	-13.2%
Total Chinese Economic Area	449	395	415	495	718	835	802	-4.0%
Select Other Asia and the Pacific								
Australia	564	700	577	615	656	768	779	1.4%
India	46	41	38	39	42	65	73	12.4%
Japan	1,893	2,217	2,008	2,285	2,051	1,534	1,449	-5.5%
Korea	597	454	369	332	309	466	562	20.5%
EUROPE								
Select European Union								
Austria	1,164	1,056	1,117	944	556	487	814	67.0%
Belgium	348	385	348	393	383	347	297	-14.5%
France	281	366	407	355	446	599	633	5.7%
Germany	950	974	1,116	941	1,019	1,256	1,379	9.8%
Italy	112	135	158	122	140	132	130	-2.1%
Netherlands	201	322	326	317	297	309	364	17.7%
Spain	88	121	93	102	134	134	272	104.0%
Sweden	204	143	127	154	208	241	198	-17.5%
United Kingdom	1,191	1,241	1,236	1,072	1,061	994	844	-15.0%
Total European Union (2)	4,609	4,848	5,048	4,492	4,345	4,615	5,071	9.9%
Select Other Europe								
Czech Republic	20	14	8	11	9	8	18	135.7%
Hungary	59	33	20	52	67	55	53	-4.3%
Poland	23	13	14	15	17	20	33	61.8%
Russia	16	15	27	17	25	31	46	49.8%
Total Other Europe	119	75	69	95	118	114	150	31.5%
WESTERN HEMISPHERE								
Select Andean Community								
Colombia	70	81	76	69	68	103	108	4.5%
Peru	37	24	33	31	37	38	57	50.4%
Venezuela**	390	537	595	310	168	392	622	58.8%
Total Andean Community (3)	520	675	778	461	326	592	869	46.9%
Select Central America								
Total Central America (4)	181	160	142	151	143	202	246	21.9%
Select MERCOSUR								
Argentina	188	225	112	37	93	132	154	17.2%
Brazil**	454	401	444	454	480	565	551	-2.6%
Chile	94	92	79	102	103	123	154	25.3%
Total MERCOSUR (5)	767	736	647	598	685	830	872	5.1%
NAFTA								
Canada	29,643	29,601	26,372	27,968	27,474	29,914	31,239	4.4%
Mexico*	9,271	12,559	12,010	11,326	10,343	11,304	11,407	0.9%
Total NAFTA	38,915	42,161	38,381	39,293	37,817	41,219	42,646	3.5%
ALL OTHERS	823	858	1,012	887	907	1,009	1,103	9.3%

Exports, f.a.s.

Source: U.S. Census Bureau

Prepared by: Forrest Nielsen, 202-482-1418. 13 February 2006.

Notes:

**1998 and 1999 data include transshipments to Brazil and Venezuela through St. Vincent and Grenadines.

1) The ASEAN region comprises Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

2) The selected European Union countries are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Austria, Finland, and Sweden.

3) The Andean Community comprises Bolivia, Colombia, Ecuador, Peru, and Venezuela.

4) Central America comprises Costa Rica, El Salvador, Guatemala, Honduras, and Panama.

5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay.

*1995 data revised to reflect \$698 million in exports underreported by Census.

U.S. AUTOMOTIVE PARTS IMPORTS, 1999 - 2005

In millions of dollars

Table 12

Region/Country	1999	2000	2001	2002	2003	2004	2005	%Chg
WORLD	61,619	66,959	62,726	69,089	74,469	83,444	92,154	10.4%
ASIA and the PACIFIC								
Select ASEAN								
Indonesia	264	269	282	320	298	362	396	9.4%
Malaysia	275	286	244	263	255	274	229	-16.3%
Philippines	324	408	360	349	386	399	441	10.6%
Singapore	178	156	147	134	100	106	104	-2.1%
Thailand	421	415	411	546	529	582	660	13.4%
Total ASEAN (1)	1,462	1,535	1,444	1,619	1,586	1,747	1,860	6.5%
Chinese Economic Area								
China	1,284	1,635	1,758	2,242	2,788	3,884	5,408	39.2%
Hong Kong	61	57	41	51	80	89	102	15.0%
Taiwan	1,062	1,033	1,085	1,294	1,366	1,604	1,731	7.9%
Total Chinese Economic Area	2,407	2,725	2,885	3,587	4,234	5,577	7,240	29.8%
Select Other Asia and the Pacific								
Australia	248	251	186	198	205	220	227	3.4%
India	161	190	179	202	234	333	463	39.0%
Japan	12,775	14,535	13,150	13,498	13,745	15,494	16,448	6.2%
Korea	919	1,082	1,122	1,383	1,546	1,866	2,709	45.2%
EUROPE								
Select European Union								
Austria	211	230	201	222	281	240	373	55.6%
Belgium	90	97	82	89	100	95	134	40.0%
France	1,303	1,133	1,165	1,197	1,302	1,478	1,449	-2.0%
Germany	3,451	3,874	3,746	4,336	5,426	6,147	6,709	9.1%
Italy	447	474	525	652	751	874	958	9.6%
Netherlands	60	60	66	71	70	81	86	7.1%
Spain	346	301	269	349	420	464	537	15.6%
Sweden	292	241	188	212	229	345	446	29.3%
United Kingdom	1,118	1,190	976	1,106	1,068	1,045	1,126	7.8%
Total European Union (2)	7,451	7,716	7,375	8,425	9,858	11,009	12,099	9.9%
Select Other Europe								
Czech Republic	53	60	86	125	150	156	236	51.2%
Hungary	95	97	100	180	315	219	213	-2.8%
Poland	19	42	43	57	95	103	97	-5.5%
Russia	4	4	2	2	3	5	4	-21.2%
Total Other Europe	172	203	230	364	564	483	550	13.9%
WESTERN HEMISPHERE								
Select Andean Community								
Colombia	7	8	10	13	16	14	19	31.1%
Peru	5	4	10	12	8	12	9	-20.7%
Venezuela	207	235	159	172	191	190	211	11.2%
Total Andean Community (3)	219	249	179	199	216	217	240	10.8%
Select Central America								
Total Central America (4)	61	91	69	105	181	345	510	47.6%
Select MERCOSUR								
Argentina	131	177	233	223	185	178	168	-5.1%
Brazil	1,360	1,248	955	1,275	1,474	1,711	2,022	18.2%
Chile	36	42	33	33	46	64	66	3.8%
Total MERCOSUR (5)	1,529	1,473	1,225	1,538	1,708	1,956	2,261	15.6%
NAFTA								
Canada	16,934	17,634	15,787	17,217	18,569	20,164	21,581	7.0%
Mexico	16,768	18,663	18,180	20,069	21,039	23,104	24,910	7.8%
Total NAFTA	33,702	36,297	33,967	37,286	39,607	43,268	46,490	7.4%
ALL OTHERS	512	613	714	686	783	927	1,056	13.9%

Imports, customs value

Source: U.S. Census Bureau

Prepared by: Forrest Nielsen, 202-482-1418, 13 February 2006.

Notes:

1) The ASEAN region comprises Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

2) The selected European Union countries are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Austria, Finland, and Sweden.

3) The Andean Community comprises Bolivia, Colombia, Ecuador, Peru, and Venezuela.

4) Central America comprises Costa Rica, El Salvador, Guatemala, Honduras, and Panama.

5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay.

U.S. AUTOMOTIVE PARTS TRADE BALANCE, 1999 - 2005

In millions of dollars

Table 13

Region/Country	1999	2000	2001	2002	2003	2004	2005	%Chg
WORLD	-11,719	-13,239	-12,932	-19,002	-25,968	-30,816	-37,100	20.4%
ASIA and the PACIFIC								
Select ASEAN								
Indonesia	-237	-236	-261	-298	-274	-328	-363	10.6%
Malaysia	-218	-251	-218	-234	-229	-254	-208	-18.2%
Philippines	-268	-355	-331	-290	-298	-328	-332	1.0%
Singapore	-28	-21	-4	8	42	43	53	23.6%
Thailand	-294	-272	-326	-460	-433	-485	-563	16.1%
Total ASEAN (1)	-1,043	-1,133	-1,135	-1,276	-1,201	-1,367	-1,428	4.5%
Chinese Economic Area								
China	-1,033	-1,410	-1,501	-1,898	-2,278	-3,249	-4,784	47.3%
Hong Kong	53	35	41	23	-5	0	-20	9979.3%
Taiwan	-978	-954	-1,010	-1,217	-1,233	-1,493	-1,634	9.5%
Total Chinese Economic Area	-1,958	-2,330	-2,470	-3,092	-3,516	-4,742	-6,439	35.8%
Select Other Asia and the Pacific								
Australia	316	449	391	416	451	548	551	0.6%
India	-115	-149	-142	-163	-192	-268	-390	45.4%
Japan	-10,883	-12,318	-11,141	-11,213	-11,695	-13,961	-14,999	7.4%
Korea	-322	-628	-753	-1,051	-1,238	-1,400	-2,148	53.3%
EUROPE								
Select European Union								
Austria	953	826	916	722	275	247	441	78.0%
Belgium	258	288	266	304	283	252	163	-35.2%
France	-1,022	-767	-759	-843	-856	-879	-815	-7.2%
Germany	-2,502	-2,900	-2,630	-3,395	-4,407	-4,891	-5,330	9.0%
Italy	-336	-338	-367	-530	-611	-741	-828	11.7%
Netherlands	141	262	260	246	227	228	277	21.5%
Spain	-258	-180	-176	-246	-286	-331	-264	-20.0%
Sweden	-88	-98	-61	-58	-21	-105	-248	136.9%
United Kingdom	72	51	260	-34	-6	-51	-282	453.6%
Total European Union (2)	-2,843	-2,868	-2,327	-3,932	-5,513	-6,394	-7,028	9.9%
Select Other Europe								
Czech Republic	-33	-46	-78	-114	-141	-149	-218	46.9%
Hungary	-36	-64	-80	-128	-249	-164	-160	-2.3%
Poland	4	-29	-29	-42	-78	-82	-64	-22.2%
Russia	12	11	25	15	22	26	43	63.5%
Total Other Europe	-53	-128	-161	-269	-446	-369	-400	8.4%
WESTERN HEMISPHERE								
Select Andean Community								
Colombia	63	73	66	56	52	89	89	0.3%
Peru	33	19	23	19	29	26	48	81.8%
Venezuela	183	302	436	138	-23	202	412	103.5%
Total Andean Community (3)	300	426	598	262	109	375	629	67.8%
Select Central America								
Total Central America (4)	120	69	73	46	-38	-144	-264	83.7%
Select MERCOSUR								
Argentina	57	49	-120	-186	-92	-46	-14	-69.2%
Brazil	-905	-847	-510	-821	-995	-1,145	-1,471	28.5%
Chile	58	50	46	69	57	59	87	48.6%
Total MERCOSUR (5)	-763	-737	-578	-939	-1,023	-1,126	-1,388	23.3%
NAFTA								
Canada	12,709	11,967	10,585	10,751	8,906	9,751	9,659	-0.9%
Mexico	-7,496	-6,104	-6,170	-8,744	-10,696	-11,800	-13,503	14.4%
Total NAFTA	5,213	5,864	4,415	2,007	-1,790	-2,049	-3,844	87.6%
ALL OTHERS	311	244	298	202	124	82	47	-42.5%

Source: U.S. Census Bureau
Prepared by: Forrest Nielsen, 202-482-1418 13 February 2006.

Notes:

- 1) The ASEAN region comprises Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam.
- 2) The selected European Union countries are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Austria, Finland, and Sweden.
- 3) The Andean Community comprises Bolivia, Colombia, Ecuador, Peru, and Venezuela.
- 4) Central America comprises Costa Rica, El Salvador, Guatemala, Honduras, and Panama.
- 5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay.

U.S.-China Trade in Auto Parts

1) U.S. Exports of Auto Parts to China, 1993-Present

(millions of U.S. Dollars)

	Year	Change
1993	218.3	
1994	179.2	-17.9%
1995	83.0	-53.7%
1996	130.0	56.6%
1997	310.8	139.1%
1998	132.0	-57.5%
1999	251.0	90.1%
2000	224.8	-10.4%
2001	257.6	14.6%
2002	343.8	33.5%
2003	510.2	48.4%
2004	635.8	24.6%
2005	623.3	-2.0%

1) U.S.Imports of Auto Parts from China, 1993-Present

(millions of U.S. Dollars)

	Year	Change
1993	339.5	
1994	558.2	64.4%
1995	635.2	13.8%
1996	711.2	12.0%
1997	795.3	11.8%
1998	1,036.9	30.4%
1999	1,284.1	23.8%
2000	1,635.3	27.4%
2001	1,758.5	7.5%
2002	2,241.8	27.5%
2003	2,788.2	24.4%
2004	3,884.4	39.3%
2005	5,407.6	39.2%

Full Year '00 Parts Trade Deficit:	\$1,410.45
Full Year '01 Parts Trade Deficit:	\$1,500.87
Full Year '02 Parts Trade Deficit:	\$1,897.98
Full Year '03 Parts Trade Deficit:	\$2,278.05
Full Year '04 Parts Trade Deficit:	\$3,248.64
Full Year '05 Parts Trade Deficit:	\$4,784.31

Change in parts deficit 2000-01:	6.41%
Change in parts deficit 2001-02:	26.46%
Change in parts deficit 2002-03:	20.02%
Change in parts deficit 2003-04:	42.61%
Change in parts deficit 2004-05:	47.27%

Source: U.S. Department of Commerce, Bureau of the Census.

Updated by Forrest Nielsen, Phone 202-482-1418, on 13 February 2006.

Chart 1

Gross Domestic Product, Manufacturing Industry Shipments, and Automotive Parts Industry Shipments, 1997-2005.

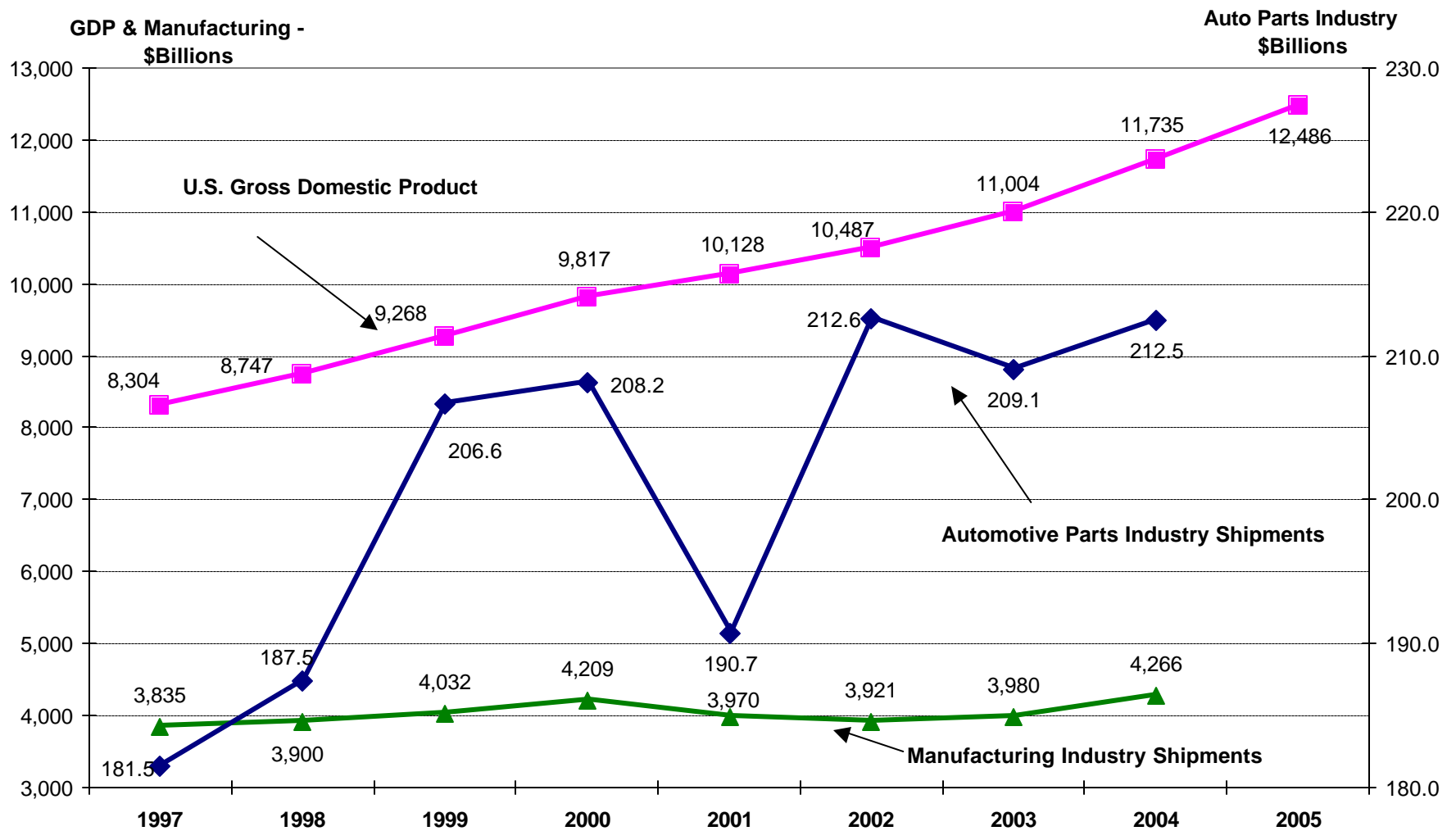


Chart 2

Aftermarket sales track the economy. Sales grew an estimated 32% from 1997 to 2005, compared with 41% for the nation's total GDP. The aftermarket accounted for 1.7% of the 1997 GDP and an estimated 1.6% in 2005.

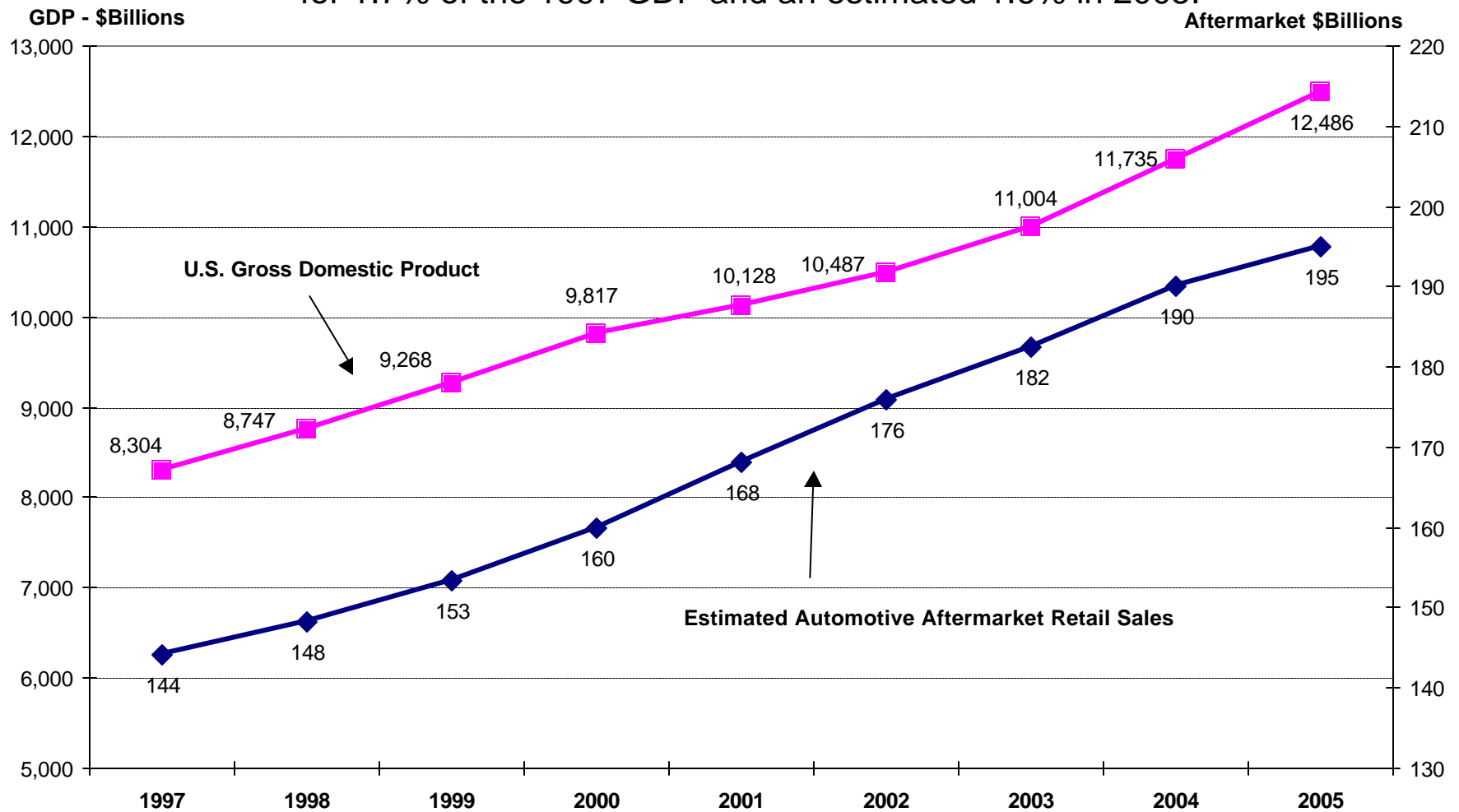
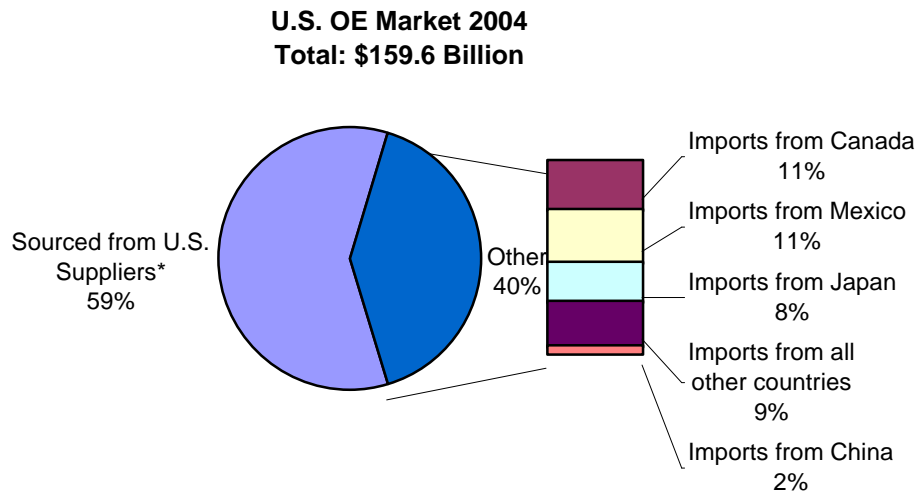
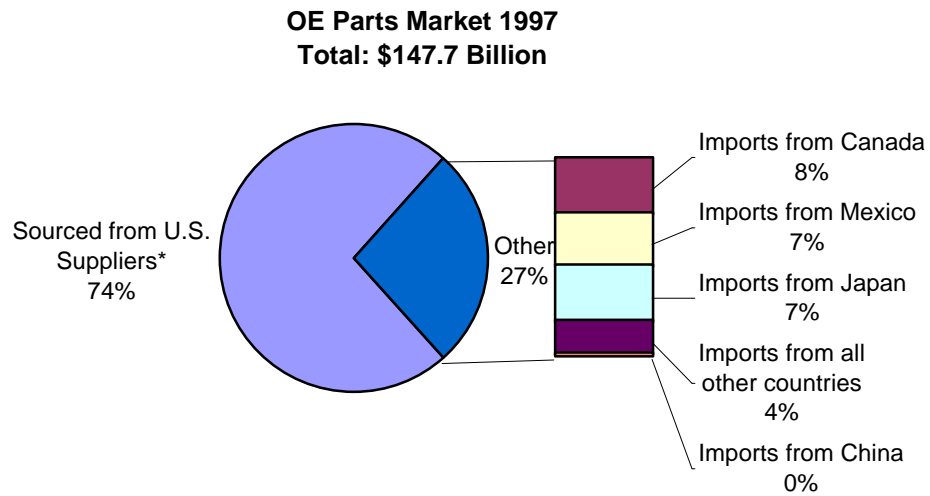


Chart 3

U.S. Original Equipment Parts Market, 1997 and 2004



*U.S. suppliers include U.S. affiliates of foreign suppliers
Source: DesRosiers and Automotive News.

Chart 4
U.S. OE Parts Market, 1997-2004
The U.S. OE Parts market high point was \$190 Billion in 1999.
The U.S. sourced* share was 71 percent.

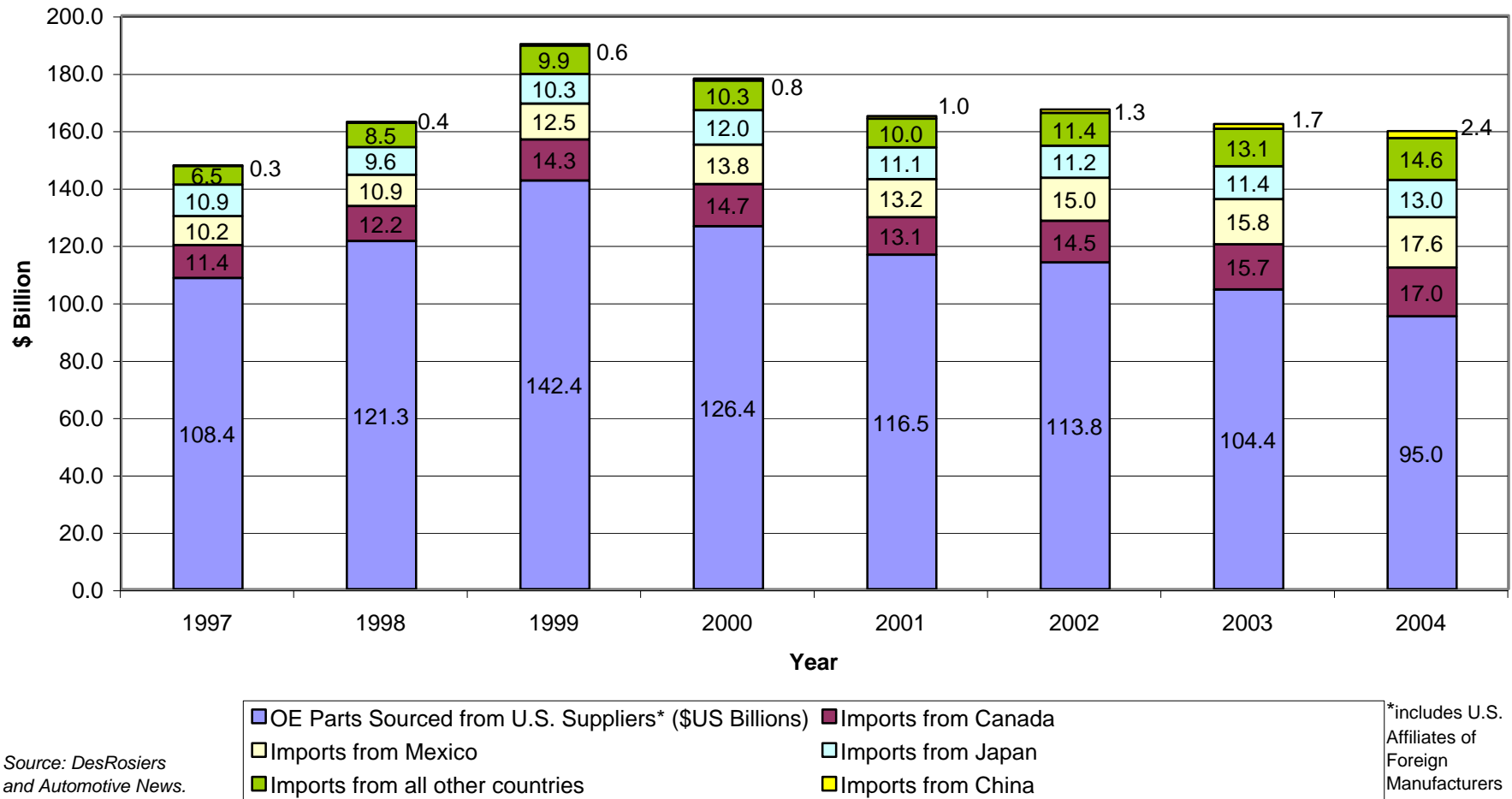
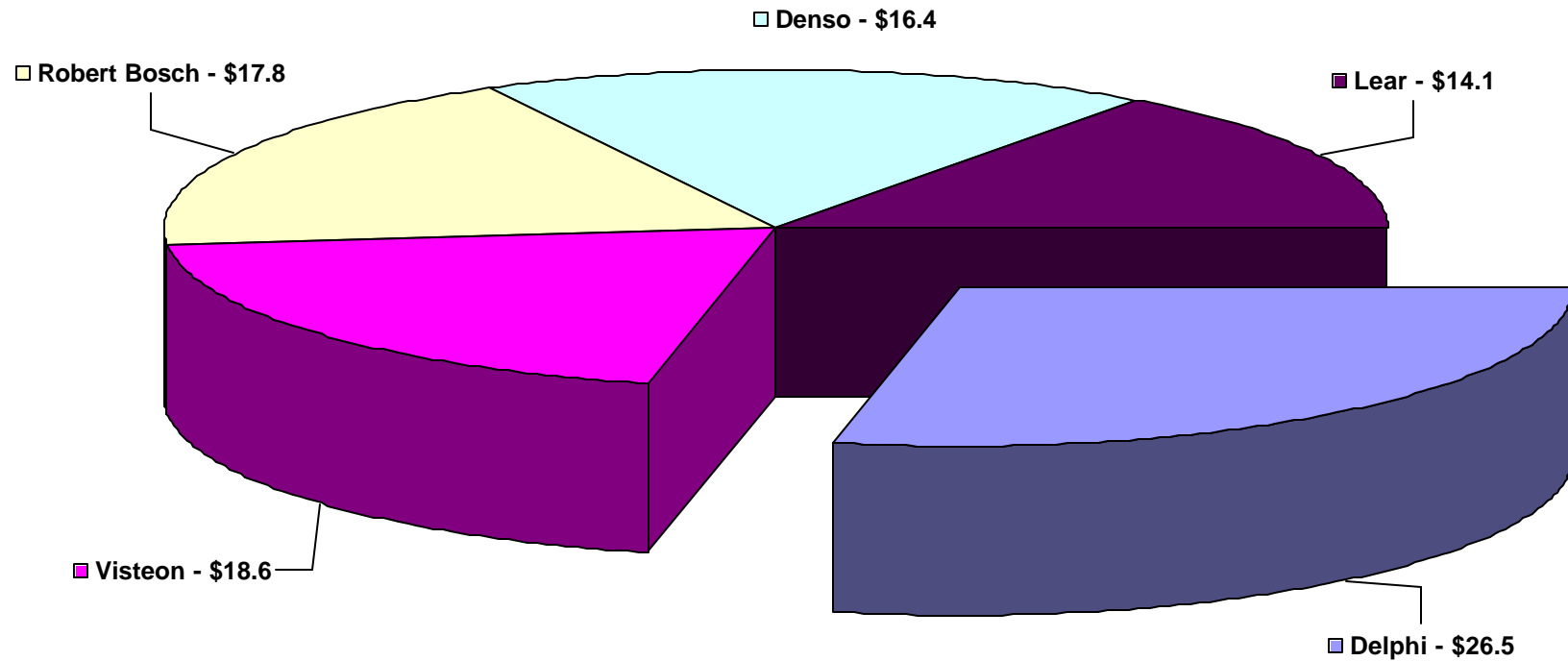


Chart 5

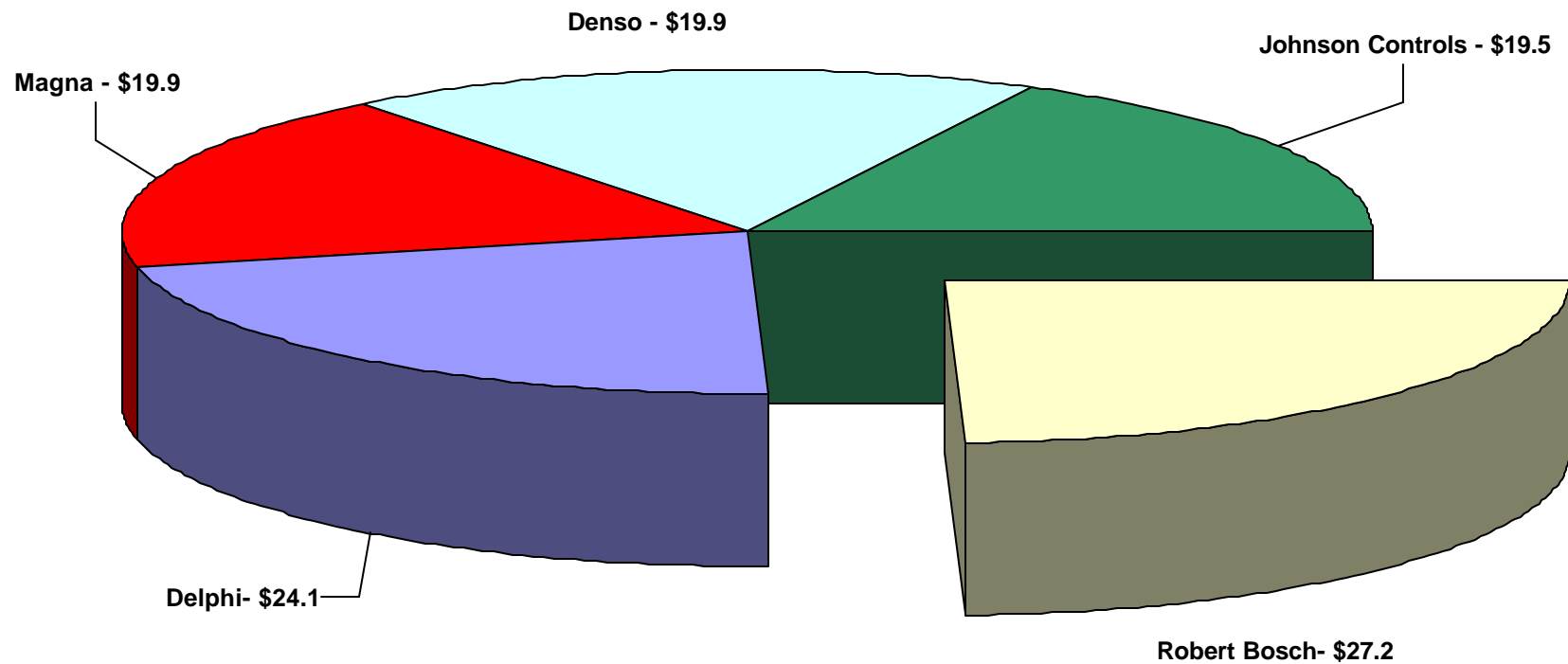
In 2000, the top 5 global suppliers of original equipment parts had sales of \$93.3 billion. Delphi's share was 28% and Robert Bosch's share was 19%.



Source: Automotive News

Chart 6

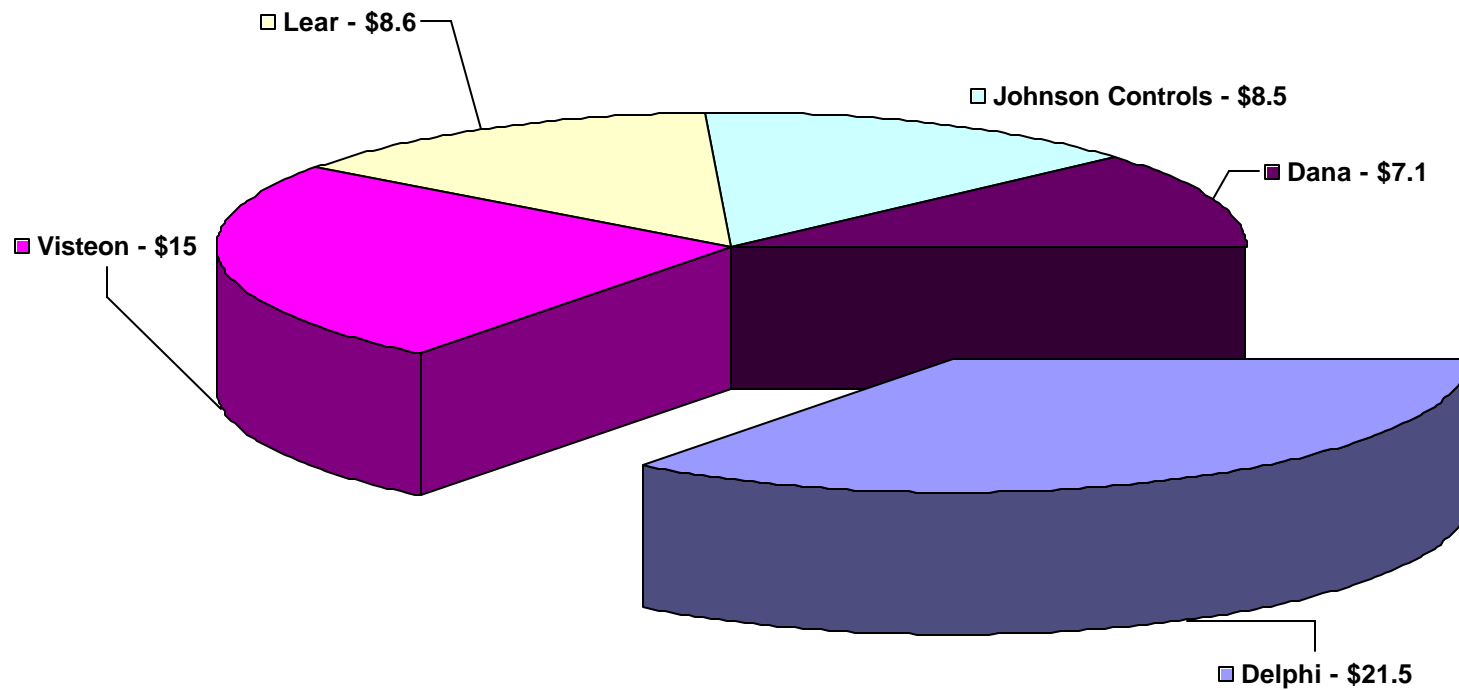
By 2004, the sales of the top 5 global OEM suppliers was \$110.7 billion, but Delphi's share decreased to 22% and Robert Bosch's Share increased to 24%.



Source: Automotive News

Chart 7

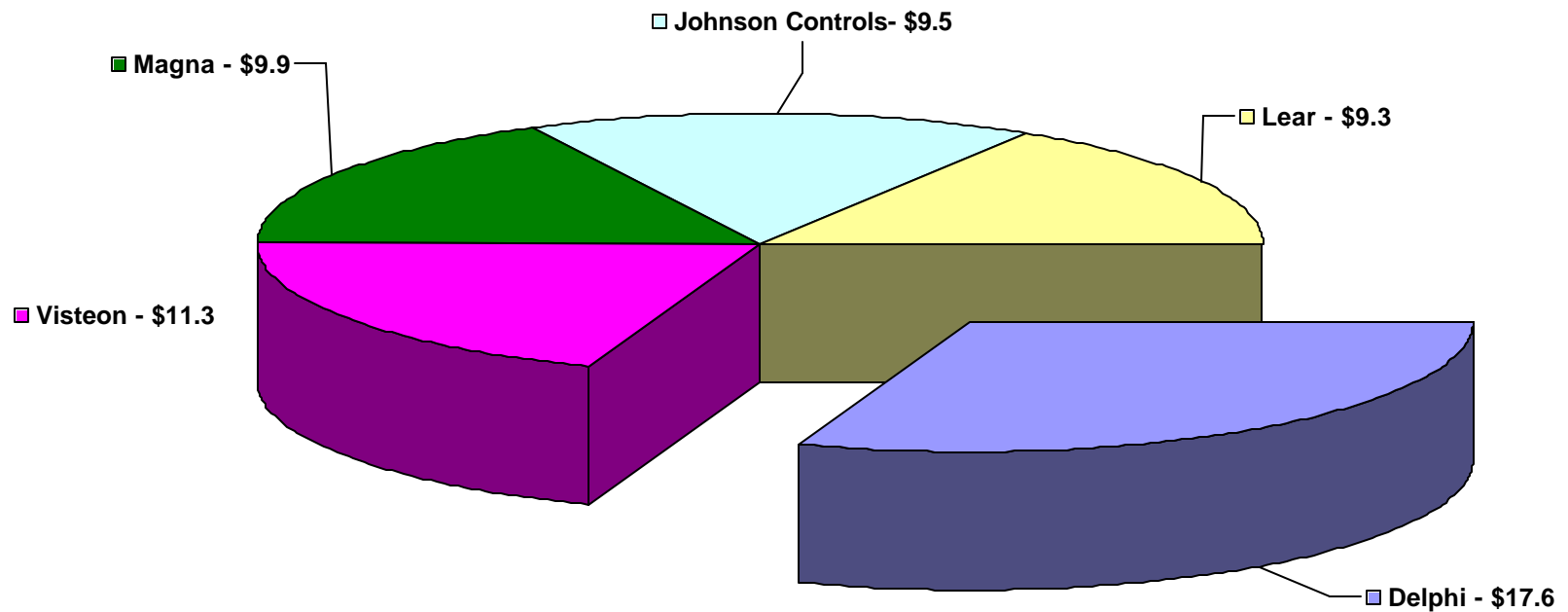
In 2000, the Top 5 U.S. suppliers in the North American market had O.E. sales of \$60.7 billion. Delphi accounted for 35% of that total.



Source: Automotive News

Chart 8

By 2004, the Top 5's sales had shrunk by 5% to \$57.6 billion.
Delphi's sales share shrank from 35% to 31%.



Source: Automotive News

Chart 9

Employment in the U.S. auto parts industry has consistently been between 5.1 percent and 5.3 percent of the total manufacturing employment.

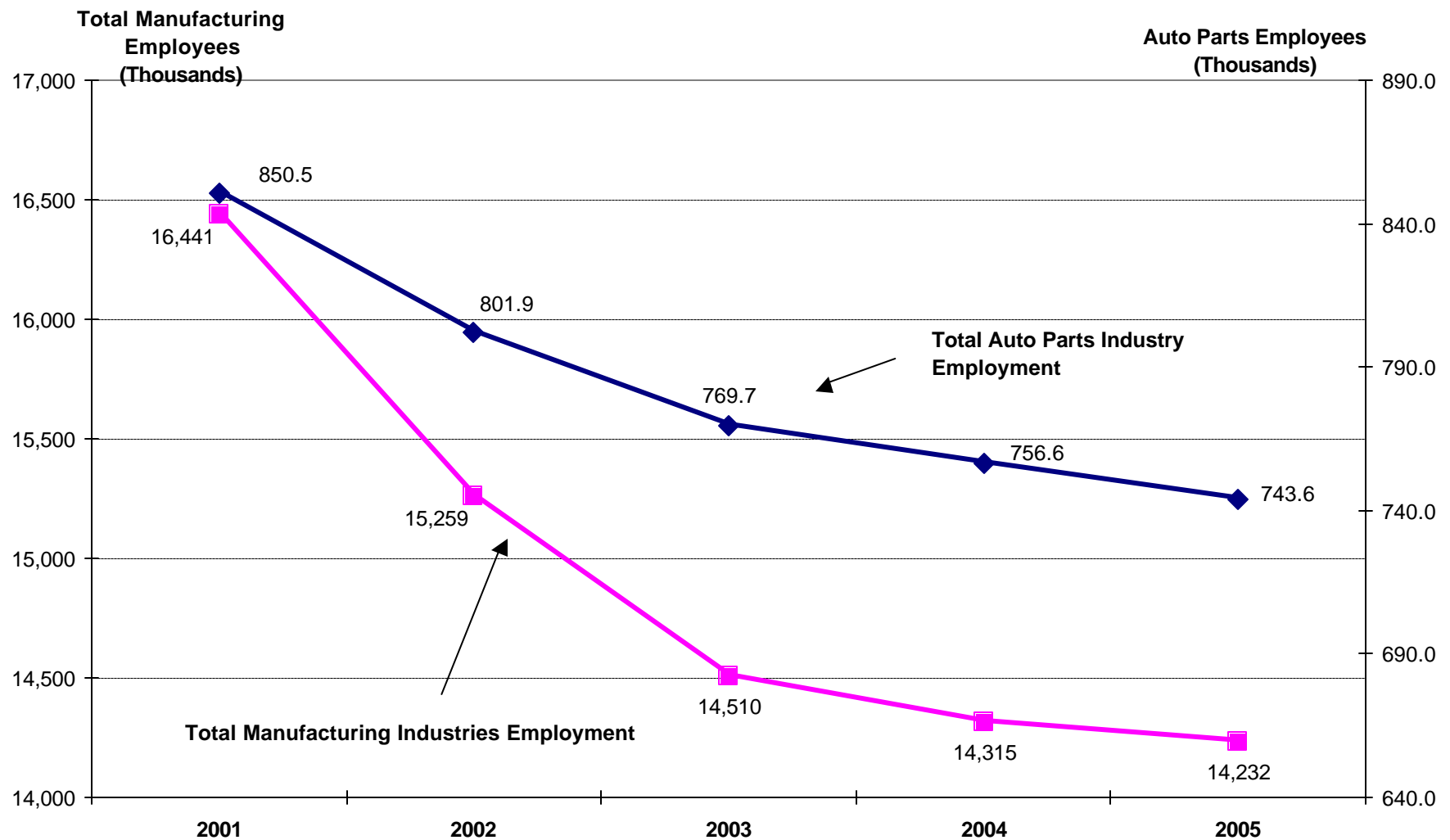


Chart 10

U.S. auto parts exports grew 18% between 1997 and 2005, but imports jumped 81%.
The result was a 792% increase in our deficit with the world.

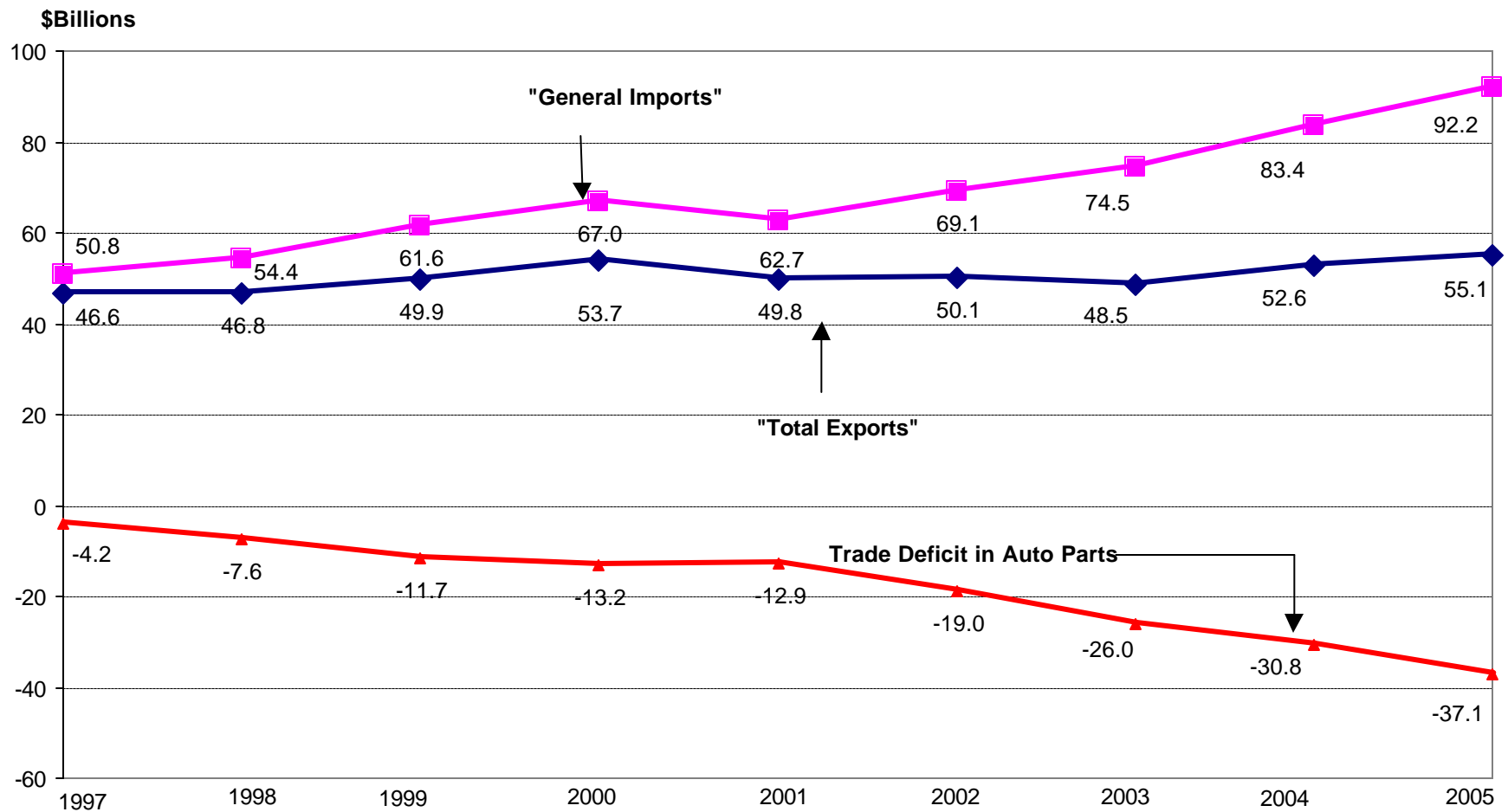
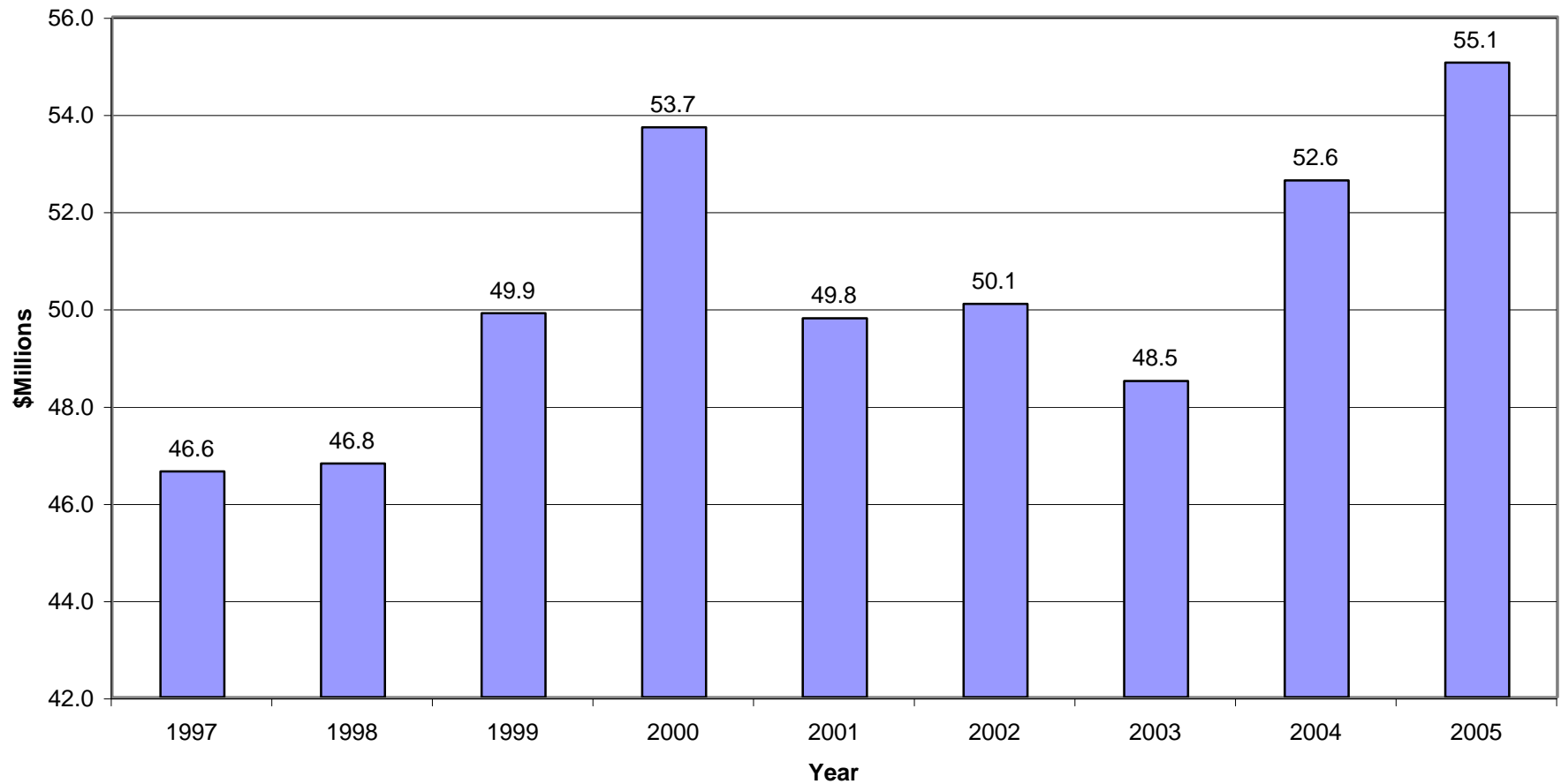


Chart 11
Exports increased 4.6 percent in 2005 over 2004...
U.S. Automotive Parts Exports, 1997-2005



Source: U.S. Department of Commerce, Bureau of the Census.

Chart 12
Canada accounted for 56 percent of U.S. Automotive Parts Exports in 2005

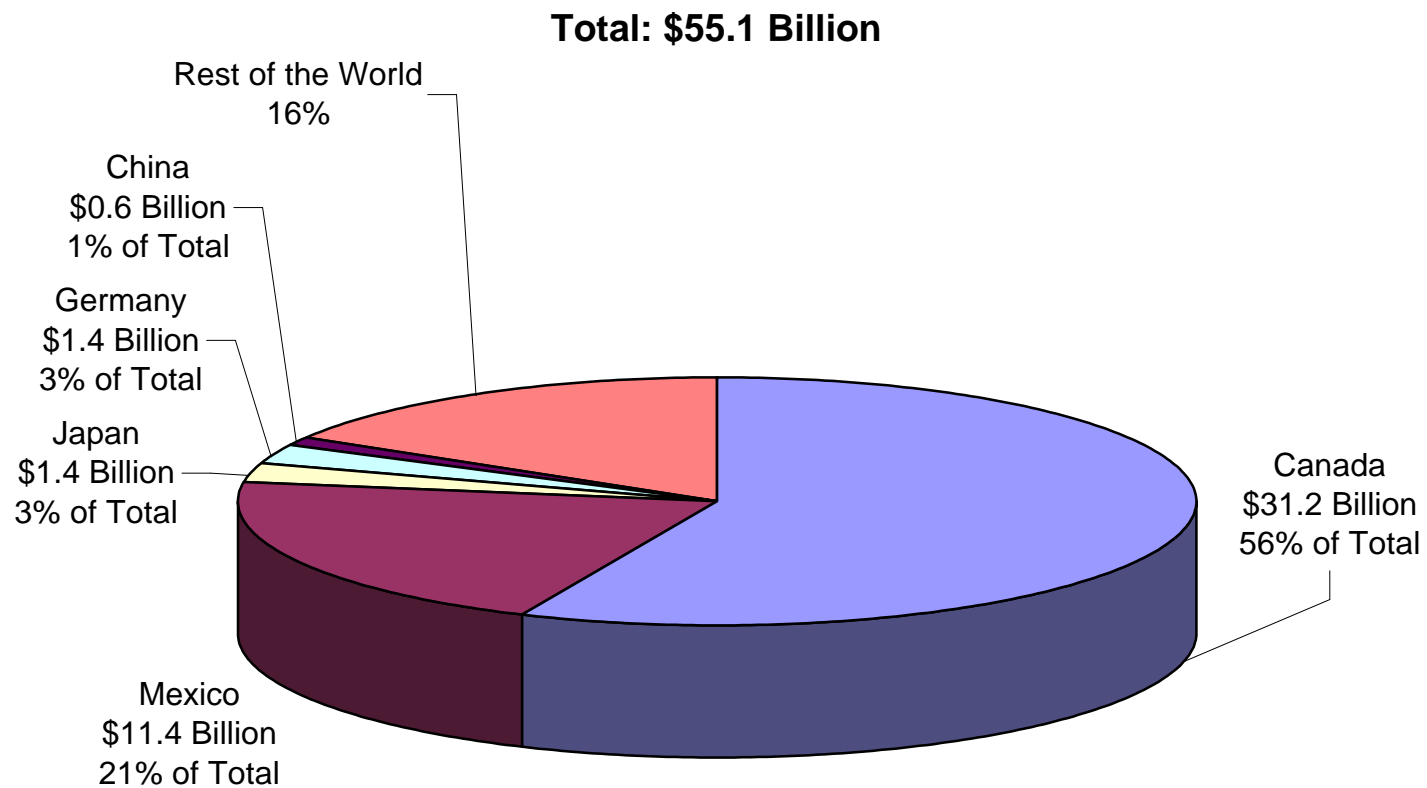
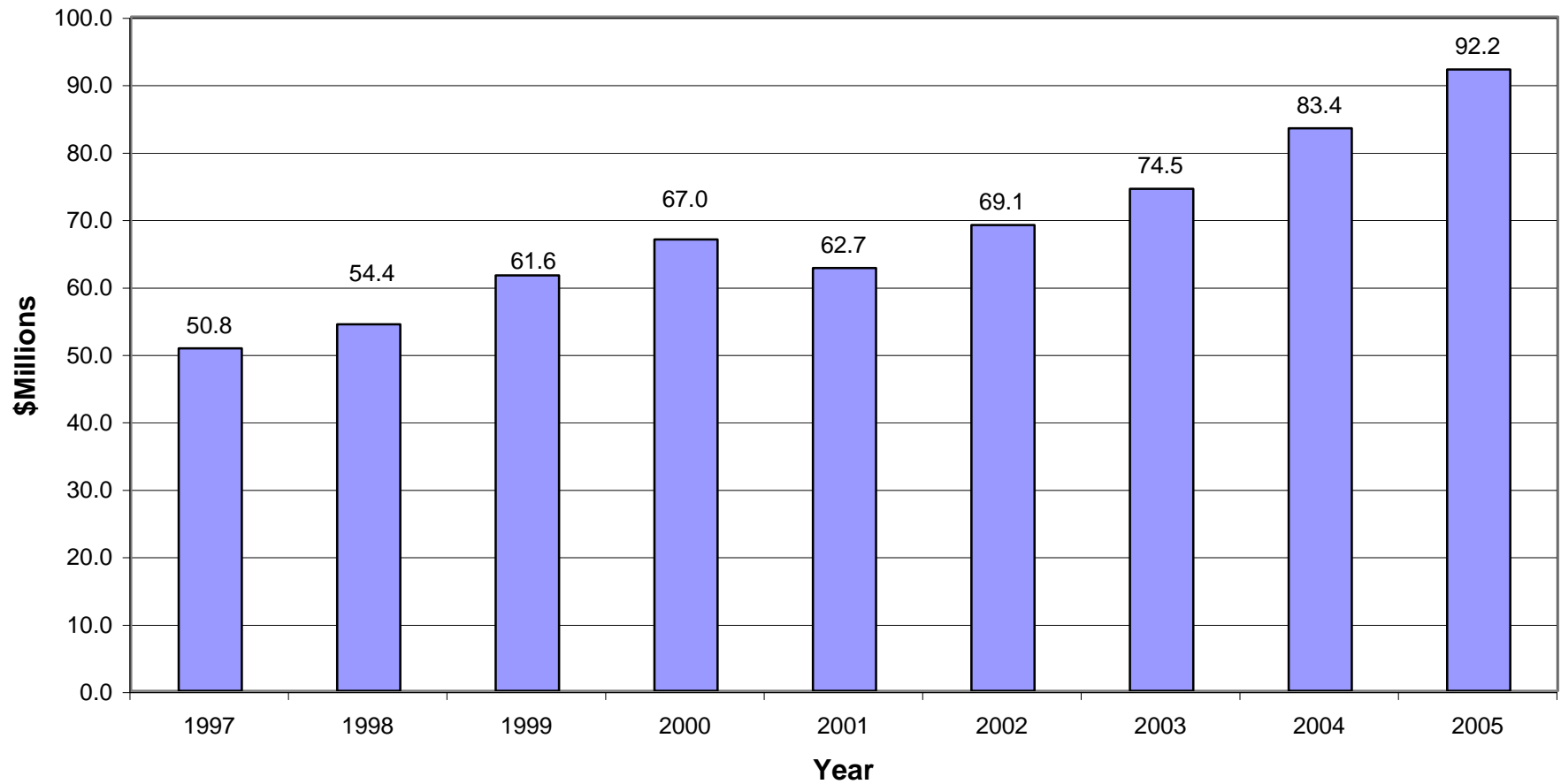


Chart 13
while Imports increased 10.4 percent in 2005,
U.S. Automotive Parts Imports, 1997-2005



Source: U.S. Department of Commerce, Bureau of the Census.

Chart 14
Canada and Mexico Accounted for 50 percent of U.S. Automotive Parts Imports
in 2005

Total: \$92.2 Billion

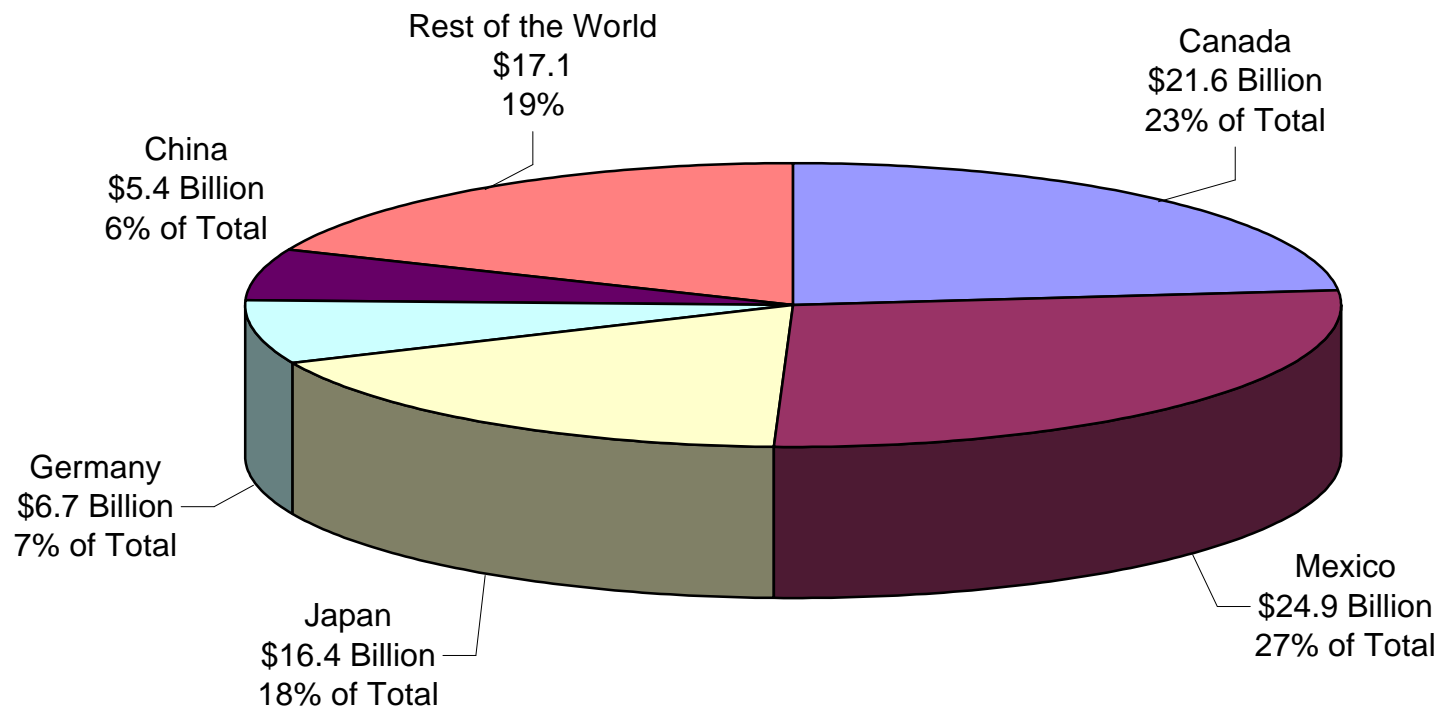


Chart 15
resulting in a 20.4 increase in U.S. automotive parts trade deficit.
U.S. Automotive Parts Trade Balance, 1997-2005

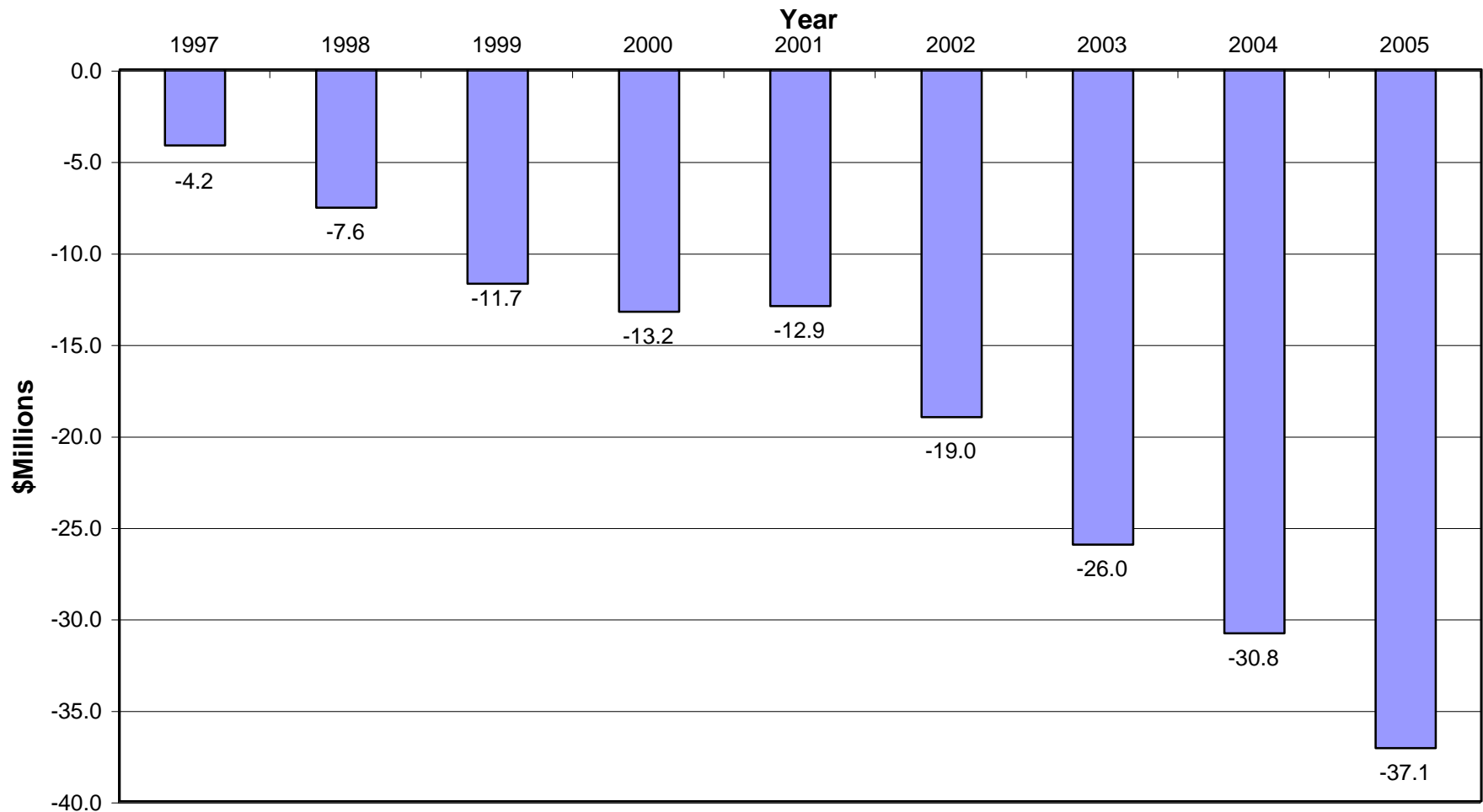


Chart 16
U.S. - China Auto Parts Trade, 1993-2005
 Since 2000, the auto parts trade deficit with China increased 239%

